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FABRIC FINISHING COMPOSITION

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This invention relates to a fabric finishing composition.

It has long been the custom in the laundry industry and other similar industries to employ compositions for treating fabric that will give the fabric a smooth appearance, add weight and finish to it, and assist in ironing the fabric. The materials ordinarily used for this purpose have included starch. It has been known, however, that starch is not completely satisfactory as it is difficult to wash out of fabric and when the fabric is again starched various and uncontrollable degrees of stiffness are obtained, depending upon the washing treatment. The compositions which are the subject of this application can be washed out easily with water. Also, starch cannot be used on black, dark blue, or other dark colored fabric as it leaves light colored streaks. For these and other reasons starch compositions have not been satisfactory when used with silks, rayons, nylons and other synthetic fabrics. We have invented a fabric finishing composition that is much superior to the starch compositions and that gives a better appearance to the fabric on which it is used. The new composition comprises a cellulose derivative in combination with waxes and dispersed or dissolved in water. The new composition penetrates the fabric and adds body to it. When the new composition is used, the fabric may be easily ironed and provides a smooth finish. The new composition can be used on black or other dark colors without leaving streaks and because it penetrates the fabric, it appears to accentuate the colors and make them more brilliant. It can be used on silks and synthetic fabrics where starch cannot be used.

The new fabric finishing composition has as its principal ingredient a carbohydrate derivative such as a cellulose derivative. The cellulose derivative may be any such material that is dispersible or soluble in water. These include the alkyl celluloses such as methyl cellulose and ethyl cellulose; hydroxy alkyl cellulose such as hydroxy methyl cellulose and hydroxy ethyl cellulose; carboxyalkyl cellulose such as carboxymethyl cellulose, carboxyethyl cellulose, carboxypropyl cellulose, and carboxybutyl cellulose; and alkali metal salts of carboxyalkyl celluloses such as sodium, potassium, and the like salts of the carboxyalkyl celluloses listed above. The corresponding chemical derivatives of other carbohydrate materials, such as starch, can be used in place of the cellulose derivatives. Although ammonium carboxyalkyl celluloses may be used, it

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is preferred that these be not used as there is some danger that hydrolysis would lead to loss of ammonia, particularly on long standing, and consequently increase the acidity due to the free carboxyl groups. This acid might then attack the fabric and weaken it.

The derivatives are preferably used with various waxes such as paraffin, microcrystalline waxes, beeswax, or other waxes. These waxes serve to impart desirable ironing characteristics to the treated fabric. As the derivatives are preferably used in water solutions, it is preferred that stabilizers such as gum arabic be also employed. Wetting agents are also preferably used as they help stabilize the wax emulsion. The wetting agent may be any of the well known cationic or anionic wetting or dispersing agents and may be either foaming or non-foaming. Because it is easier to prepare the dispersion if the wetting agent is non-foaming, it is preferred that those which are non-foaming are used. The wetting agents which may be employed include any of the well known quaternary ammonium salts, sodium alkyl aryl sulphonates, sodium alkyl sulphates, alkylated aryl sulfonates, alkanolamine esters, and any of the large number of well known wetting agents.

An excellent fabric finishing composition may be prepared by using from 1 to 6% by weight of a water soluble cellulose derivative, from 0.2 to 5% of a wax, and the remainder water. For best results, it is preferred that there also be included from 0.01 to 2% of a wetting agent and from 0.01 to 1.0% of a gum, such as gum arabic.

In a typical example of a fabric finishing composition prepared according to this invention, 3.5% of carboxymethyl cellulose was mixed with sufficient water to dissolve it. The cellulose derivative was agitated in order to bring it into solution. 0.5% of paraffin was melted and to this was added 0.05% of a wetting agent. To this mixture was added 0.05% of gum arabic dissolved in boiling water. The ingredients were all mixed together and sufficient additional water was added so that all ingredients including the water totalled 100%. The mixture was violently agitated in a mixer having rotatable blades for a period of about 30 minutes. At the end of this time, the carboxymethyl cellulose was dissolved while the paraffin was in the form of a dispersion. The composition was then ready to use on fabric in the same manner in which starch is used.

As can be seen from the above description the carbohydrate derivative is used to give a good

finish to the surface, the wax gives good ironing characteristics to the treated textile, while the gum and the wetting agent serve to stabilize the aqueous dispersion of the wax. The water serves as a carrier.

Having described our invention it is our intention that the invention be not limited by any of the details of description unless otherwise specified, but rather be construed broadly within its spirit and scope as set out in the accompanying claims.

We claim:

1. A fabric finishing composition water washable from a substantially dry fabric coated therewith and consisting essentially of water, a water soluble alkyl derivative of cellulose dissolved in the water, and from 0.2 to 5.0% by weight of said composition of a wax dispersed in said water.

2. The composition of claim 1 wherein said cellulose derivative is a carboxyalkyl cellulose.

3. The composition of claim 1 wherein said cellulose derivative is an alkali metal salt of a carboxyalkyl cellulose.

4. The composition of claim 1 wherein said cellulose derivative is carboxymethyl cellulose.

5. A fabric finishing composition water washable from a substantially dry fabric coated therewith and consisting essentially of water, a water soluble alkyl derivative of cellulose dissolved in the water, from 0.2 to 5.0% by weight of said composition of a wax dispersed in said water, and a dispersion stabilizer for said dispersed wax.

6. The composition of claim 5 wherein said stabilizer comprises at least one of a water soluble wetting agent and a water soluble gum.

7. A fabric finishing composition water washable from a substantially dry fabric coated therewith and consisting essentially of water, from 1 to 6% by weight of said composition of a water

soluble alkyl derivative of cellulose dissolved in the water, from 0.2 to 5.0% of a wax dispersed in the water, and a dispersion stabilizer for said dispersed wax.

8. The composition of claim 7 wherein said cellulose derivative is a carboxyalkyl cellulose.

9. The composition of claim 7 wherein said cellulose derivative is an alkali metal salt of a carboxyalkyl cellulose.

10. The composition of claim 7 wherein said cellulose derivative is carboxymethyl cellulose.

11. The composition of claim 7 wherein said stabilizer comprises at least one of a water soluble wetting agent and a water soluble gum.

12. A fabric finishing composition water washable from a substantially dry fabric coated therewith and consisting essentially of water, about 3.5% by weight of the composition of carboxymethyl cellulose dissolved in the water, about 0.5% of paraffin dispersed in the water, and a dispersion stabilizer for said dispersed wax comprising about 0.05% of a water soluble wetting agent and 0.05% of gum arabic each dissolved in the water.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,245,499	Reichel et al.	June 10, 1941
2,308,664	Young et al.	Jan. 19, 1943

OTHER REFERENCES

Hercules "CMC," May 1946, Hercules Powder Company, Wilmington 99, Delaware; page 4.