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PROCESS FOR RENDERING FIBROUS MATERIALS NONINFLAMMABLE

Rudolf Engelhardt, Leverkusen-on-the-Rhine, Germany, assignor to I. G. Farbenindustrie Aktiengesellschaft, Frankfort-on-the-Main, Germany

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8 Claims. (Cl. 91—68)

The present invention relates to an improved process of rendering fibrous materials non-inflammable.

In the process of rendering fibrous materials, such as jute fabrics, paper or cotton coverings of wires or the like, non-inflammable the inflammable material is first saturated with the aqueous solution of an inorganic salt, such as ammonium biphosphate, sodium biphosphate, ammonium bromide, sodium sulfate, calcium chloride, alum, sodium silicate, iron-, copper- and zinc-sulfate etc., as is described in literature, for example, in Lange, Chemisch-Technische Vorschriften, 1923, vol. 2, page 404 and Th. Koller, Die Imprägnierungstechnik, 1923. After the drying, an additional covering of a wax is customarily applied in order to exclude moisture from the water soluble salts. This covering must obviously also be non-inflammable. In practice it has been found to be of particular advantage for this purpose to employ trichloronaphthalene, tetrachloronaphthalene and higher chlorinated naphthalenes or mixtures thereof, obtainable directly by chlorination of naphthalene.

In accordance with the present invention naphthalenes chlorinated only about to the dichloronaphthalene stage, are employed in the process of rendering fibrous materials non-inflammable although they are themselves inflammable. The application of the dichlorinated naphthalene presents the great technical advantage that the treatment of the pretreated fibre can be carried out at ordinary temperature, since the technical mixture of dichloronaphthalene is either liquid or possesses a very low melting point, depending on the particular process of manufacture.

The following example will further illustrate the invention:

Example.—A wire covered with paper (or cotton) is placed in the form of a roll in an aqueous 15% solution of ammonium biphosphate and dried after complete penetration of the covering. The roll of wire is then placed in a mixture of dichloronaphthalenes, obtainable by the chlorination of naphthalene and the excess thereof is removed by draining or short centrifuging.

I claim:

1. In the process of rendering fibrous materials non-inflammable the step which consists in applying to said material dichlorinated naphthalene subsequent to the impregnation with an aqueous solution of an inorganic salt customarily used for rendering non-inflammable fibrous material and to drying.

2. In the process of rendering fibrous materials non-inflammable the step which consists in applying to said material dichlorinated naphthalene subsequent to the impregnation with an aqueous solution of ammonium biphosphate and to drying.

3. In the process of rendering non-inflammable a wire covered with cotton the step which consists in applying to the cotton dichlorinated naphthalene subsequent to the impregnation with an aqueous solution of an inorganic salt customarily used for rendering non-inflammable fibrous material and to drying.

4. In the process of rendering non-inflammable a wire covered with cotton the step which consists in applying to the cotton dichlorinated naphthalene subsequent to the impregnation with an aqueous ammonium biphosphate solution of 15% strength and to drying.

5. Fibrous materials preliminarily impregnated with an aqueous solution of an inorganic salt customarily employed to render fibrous material non-inflammable, and after drying subsequently impregnated with dichlorinated naphthalene.

6. Fibrous materials preliminarily impregnated with an aqueous solution of ammonium biphosphate, and after drying subsequently impregnated with dichlorinated naphthalene.

7. A wire covered with a textile material, said material being preliminarily impregnated with an aqueous solution of an inorganic salt customarily employed to render fibrous material non-inflammable, and after drying subsequently impregnated with dichlorinated naphthalene.

8. A wire covered with cotton, said cotton being preliminarily impregnated with an aqueous solution of ammonium biphosphate of about 15% strength, and after drying subsequently impregnated with dichlorinated naphthalene.

RUDOLF ENGELHARDT.