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ADHESIVE COATED TAPE

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7 Claims. (Cl. 91—68)

This invention relates to new and useful improvements in adhesive coated paper, cloth or other material, and more particularly to a moisture protected adhesive coating for gummed tape or the like.

The object of the invention is to provide an adhesive coating which will not become sticky even when exposed to humid atmosphere over long periods of time, thus eliminating operating and handling difficulties in postage stamp feed mechanisms, sealing tape machines, telegraph printers, etc., and prevents damage to gummed material stored in humid climates.

In accordance with the present invention the paper, cloth or the like is first passed through any suitable gumming machine. A thin uniform coating of a substance (to be described below) is sprayed, dusted or otherwise applied to the adhesive while the tape passes through the drying mechanism of the gumming machine. As the coating dries, the film will firmly adhere thereto. The film may be applied also in a separate operation.

The coating substance consists of a high molecular weight saturated or unsaturated fatty acid such as stearic, palmitic, oleic, etc., or a mixture of such acids combined with any one of the following metals to form a metallic soap: sodium, potassium, calcium, barium, zinc, magnesium and aluminum. When using the insoluble metallic soaps, sulphonated oil or the like should be added to make them soluble in water. Best results were obtained with sodium and potassium soaps. This soap may be sprayed on the coating in liquid form by mixing with a suitable amount of water or other solvent, or it may be sprayed, dusted or otherwise applied in powdered form during the drying process of the gummed tape.

The film of metallic soap thus applied prevents contact between large surface areas of the adhesive coating and the user's fingers, elements such as platens of the tape feed, etc. If applied to stamps or the like, care should be exercised to use only substances which are not injurious to health.

When the soap film is moistened with water, it will dissolve and allow the water to penetrate into and soften the adhesive coating. The water will soften the adhesive and permit application of the tape to the desired object. The presence of the dissolved soap will not materially affect the adhesive quality of the gum coating.

In accordance with another embodiment of the invention, the soap is mixed with the adhesive before the latter is applied to the surface to be coated. Depending on the type of adhesive and the gumming strength required, up to about 20% of the dry adhesive weight may consist of said soap substance.

The adhesive-soap mixture may be applied to paper, cloth or the like in the usual gumming machine, and the finished product will have approximately the same moisture resistant qualities as the one above described. When the coating is moistened, the soap will be dissolved and the softened coating will readily adhere to paper or other surfaces. The resistance to humidity may be enhanced by applying thereto a film of metallic soap as specified in connection with the first embodiment.

The gummed material thus protected will not have the usual tendency to curl or wrinkle.

I have found that gummed tape protected by a film of metallic soap will not become sticky even after prolonged exposure to atmosphere having a relative humidity of 100% at a temperature of 70° F. An adhesive coating 7% (of the weight of dry adhesive) of which consists of metallic soap will not become sticky up to a relative humidity of 80% at 70° F. even without a protecting film of metallic soap.

It will be obvious to those skilled in the art that the above described applications of the invention are subject to modifications of a wide variety without departing from the spirit thereof defined in the appended claims.

What is claimed is:

1. The method of protecting the water-soluble adhesive coating of paper, cloth or the like comprising the following steps: applying the adhesive coating to the paper cloth or the like in moist condition, and subsequently applying a film of metallic soap to the coating before it is dry, and drying the film covered coating.

2. The method according to claim 1, and in which the application is effected by spraying the metallic soap on the adhesive coating.

3. The method according to claim 1 and in which the application is effected by spraying powdered metallic soap on the coating.

4. The method of forming a moisture protected adhesive coating upon paper, cloth, or the like, comprising the following steps: applying to the paper, or the like, a wet suspension of a water soluble adhesive mixture comprising an adhesive and an alkali metal soap, applying a film of metallic soap to said suspension before it is dried, and drying the film covered suspension.

5. As a new article of manufacture, a base of

paper, cloth, or the like, a coating of a preformed mixture of an adhesive substance and a metallic soap on one surface of said base, and a film of metallic soap on said coating.

6. A roll of gummed tape comprising a base of paper, cloth, or the like, and on one surface of said base a normally nonsticky coating adapted to become adhesive upon wetting with water, said coating consisting essentially of a preformed mixture of a water soluble adhesive substance and a metallic soap of a high molecular weight fatty acid combined with one of the metals of the following group—sodium, potassium, calcium, barium, zinc, magnesium and aluminum.

7. The article of manufacture according to claim 5, in which said metallic soap constitutes less than approximately 20% of the dry adhesive weight of said coating.

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