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METHOD OF CLEANING AND COATING SURFACES

Elizabeth P. MacDonald and Naomi W. Stenglein,
Saginaw, Mich.

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This invention relates to a method of cleaning surfaces, particularly painted, varnished or other like surfaces, and to a material particularly adaptable thereto, the principal object being the provision of a means for and a method of cleaning surfaces which will permit such surfaces to be cleaned thoroughly and rapidly without affecting the finish thereof and which will leave a protective covering on the surface cleaned.

Objects of the invention include a method of conditioning a surface, and particularly a painted or varnished surface or the surface of a rug, carpet or the like, which will readily remove any film of foreign material which has formed thereon without affecting the finish of said surface and which will leave a film of protective material on the surface which will enhance the ease of future cleaning operations thereof; to provide a method of conditioning a surface which will leave a thin but material coating of glue upon the surface for the purpose of enhancing the gloss thereof and providing a protecting coating therefor; the provision of a method of conditioning a surface including the application to the surface of a water solution containing a material percentage of glue and removing only a portion of the solution from the surface and allowing the remainder to dry thereon; the provision of a method of cleaning a surface including applying to the surface a water solution of glue and a cleaning agent and allowing a material amount of the solution to remain and dry upon the surface; and the provision of a method of cleaning a surface including applying to the surface a water solution of glue and one or more elements of a class including borax, sodium carbonate, and tri-sodium phosphate, the glue constituting from 25% to 75% of the combined weight of the glue and the one or more elements present and the combined weight of the glue and the one or more elements constituting from 1½% to 4% of the total weight of the solution.

Further objects include the provision of a cleaning mixture or compound including glue and a cleaning agent, the weight of the glue constituting 25% to 75% of the total weight of the mixture; the provision of a cleaning mixture including glue and one or more elements of a class including borax, sodium carbonate and tri-sodium phosphate, the glue constituting approximately one-third of the total weight of the mixture; the provision of a cleaning mixture including glue, sodium carbonate and tri-sodium phosphate, the glue constituting 25% to 75% of the entire weight of the mixture and the sodium

carbonate and the tri-sodium phosphate being present in substantially equal amounts; and the provision of a cleaning compound including glue, anhydrous sodium carbonate, and tri-sodium phosphate, the glue, anhydrous sodium carbonate and tri-sodium phosphate being present in approximately equal amounts by weight.

The above being among the objects of the present invention, the same consists in a certain novel composition of matter and certain steps of application and procedure to be hereinafter more fully described, having the above and other objects in view.

We have found that a water solution of glue, where the glue is present in sufficient quantity, when applied to a surface has an exceptional tendency to draw any water soluble or loose foreign material which may be upon the surface into the solution and away from the surface. If, in treating the surface, an appreciable amount of such a solution is allowed to remain on the surface and dry the glue in the solution remaining on the surface and drying will form a protective film over the surface which, because of the character of glue, imparts a gloss or lustre to the surface and which, because of its transparency, has no discoloring effect whatsoever. If foreign material should be again deposited on the surface, the film of glue separates it from actual contact with the surface and should the surface again be cleaned the film of glue is readily dissolved and removed, carrying with it the foreign material. This not only provides a quick and convenient way of both protecting and/or cleaning a surface and by following out such procedure the character of the surface may be maintained free of the effects of foreign material for a relatively long period of time.

It is, of course, rather difficult for a water solution of glue by itself to remove foreign material from the surface that is not soluble in water and which adheres to the surface, and we have discovered that if an additional suitable element or elements are introduced into the solution, practically all foreign material which may be found upon a surface, may be quickly and readily removed. The additional element or elements which are preferably employed with the water and glue for this purpose may be taken from a class including borax, sodium carbonate or tri-sodium phosphate, and one or more of such elements may be employed. We have discovered that in order to prevent such elements from adversely affecting the surface by penetration thereof the glue should constitute ⅓ of one per cent to

3% of the total solution, and should constitute 25% to 75% of the combined weight of the glue and the cleaning element or elements other than water. Although any one or more of the elements of the class described may be used with the glue and water to form the desired solution, we prefer to employ sodium carbonate and tri-sodium phosphate for the reason that the sodium carbonate acts to soften the water and the tri-sodium phosphate acts to penetrate the foreign material and permit its ready removal. Preferably, the sodium carbonate and the tri-sodium phosphate are present in equal amounts and individually in amounts approximately equal to the glue.

In marketing the material, it is of course preferable to mix the glue and one or more elements of a class including borax, sodium carbonate and tri-sodium phosphate in a dry state and allow the ultimate user to dissolve the required amount of the mixture in the required amount of water. In such case the mixture sold will comprise from 25% to 75% glue, bone glue being preferable because of economy although any other suitable type will function satisfactorily. The remainder of the mixture will of course constitute one or more of a class of elements including borax, sodium carbonate and tri-sodium phosphate and preferably tri-sodium phosphate with either sodium carbonate or borax. While the proportions of the elements from the above class may be varied where two or more of such elements are employed together, we prefer to employ sodium carbonate or borax in equal amounts with the tri-sodium phosphate. Sodium carbonate is preferable particularly from the standpoint of cost. Also anhydrous sodium carbonate is preferably employed for the reason that its water content is usually about 12% while the water content of hydrous sodium carbonate is approximately 54% and where the mixture is formed with hydrous sodium carbonate, there is a tendency to cake which, although it does not affect the ultimate results, makes it more difficult to dissolve the mixture in the water.

A preferred composition of material or mixture for the above described purposes includes approximately 36% glue, 32% anhydrous sodium carbonate and 32% tri-sodium phosphate. Coloring matter or material designed to give a distinctive scent or odor to the mixture may be added if desired but inasmuch as such material is usually and preferably inert as far as the action of the mixture is concerned, it may be considered as merely additive to the above stated proportions and accordingly is not taken into consideration in the following claims. It will also be apparent that other elements that may have certain desirable results may be added to the above composition without affecting the invention herein.

Where such a dry mixture is prepared for marketing purposes it will, of course, be understood that the various elements entering into it are preferably reduced to powdered form and intimately intermixed with each other. In employing this mixture for the purpose of cleaning a surface, 2 to 5 ounces of the mixture is dissolved in a gallon of water. A cloth or other element is then immersed in the solution, partially wrung out and then employed to rub or wash the surface which it is desired to clean, the cloth being repeatedly rinsed in the solution as often as is required to maintain it suitably free of the foreign material and, of course, as soon as the solution becomes sufficiently contaminated with the foreign material it is dispensed with and replaced by some

new solution. In cleaning a surface in the manner described, it is preferable not to wipe the surface dry but rather to leave an appreciable amount of the solution on the surface and allow it to dry thereon. The solution in drying on the wall will leave a minute coating of glue over the surface and any foreign material which may thereafter become deposited on the surface will be separated from actual contact therewith by the film of glue. Obviously, should the surface thereafter be again cleaned, the application of water to the film of glue will dissolve it and the foreign material will readily be removed therewith.

It may be noted that the material may be used as an initial protective covering for newly painted or other surfaces, thereby permitting greater ease in subsequent cleaning operations and eliminating the possibility of the foreign material initially affecting the surface before it is cleaned with the preparation disclosed.

It is to be particularly noted that the cleaning agents herein disclosed, namely, borax, sodium carbonate and tri-sodium phosphate, if alone or in combination with each other, are dissolved in water and employed to clear a surface, they will have an adverse effect upon the surface such as, for instance, attacking the paint where the surface is a painted surface, but we have discovered that where glue in sufficient amount is employed with such cleaning agent, the glue prevents such agents from penetrating the surface sufficiently to affect the character thereof, and the minimum amount of glue which it is capable of employing to successfully resist the penetrating effect particularly of the tri-sodium phosphate is 25% of the dry mixture. We have also discovered that if less than 25% of the dry mixture disclosed comprises glue then there will be an insufficient amount of glue left on the surface to provide the necessary film or coating to properly protect the surface from foreign material thereafter deposited upon it. Accordingly, it will be understood that the amount of glue should never be reduced below the minimum amount stated if the objects of the present invention are to be adequately attained.

While the mixture herein disclosed is particularly adaptable for use in connection with cleaning painted, varnished or other like surfaces, we have also discovered that it is also admirably suitable for use in connection with cleaning carpets, rugs or the like as the sodium compound loosens the dirt or other foreign material in the nap and the adhesive qualities of the glue draw the dirt or foreign material into the solution, leaving the nap free from any soapy film. This is of considerable importance in protecting the life of the rug or carpet. In this connection it may be pointed out that when rugs or carpets are cleaned with so-called soap, a film of the soap is invariably left on the carpet which acts to dull the color and lustre thereof, while in using the herein described mixture the film which is left enhances the color and lustre of the nap as well as affords a protection therefor when an appreciable amount is allowed to dry thereon.

Formal changes may be made in the specific embodiment of the invention describe without departing from the spirit or substance of the broad invention, the scope of which is commensurate with the appended claims.

We claim:—

1. The method of cleaning and coating a painted, varnished or like surface including applying

to said surface a water solution of glue and a material selected from a group of compounds consisting of borax, sodium carbonate and tri-sodium phosphate, said glue and said material
5 constituting from 1½% to 4% of the weight of said solution and said glue constituting from 25% to 75% of the combined weight of said glue and said material, cleaning the surface with said solution, and allowing an appreciable film of said
10 solution to remain and dry on said surface.

2. The method of cleaning and coating a painted, varnished or like surface including applying to said surface a water solution of glue and a material selected from a group of compounds
15 consisting of borax, sodium carbonate and tri-sodium phosphate, said glue and said material constituting from 1½% to 4% of the weight of said solution and said glue constituting approximately one-third of the combined weight of said
20 glue and said material, cleaning the surface with said solution, and allowing an appreciable film of said solution to remain and dry on said surface.

3. The method of cleaning and coating a painted, varnished or like surface including applying
25 to said surface a water solution of glue, sodium carbonate and tri-sodium phosphate, said glue,

sodium carbonate and tri-sodium phosphate constituting from 1½% to 4% of the weight of said solution, and said glue constituting approximately one third of the combined weight of said
5 glue, sodium carbonate and tri-sodium phosphate, cleaning the surface with said solution, and allowing an appreciable film of said solution to dry upon said surface whereby to leave an appreciable but transparent film of glue thereon.

4. The method of cleaning and coating a painted, varnished or like surface including applying
10 to said surface a water solution of glue, sodium carbonate and tri-sodium phosphate, said glue, sodium carbonate and tri-sodium phosphate constituting from 1½% to 4% of the weight of said
15 solution, said glue constituting approximately one third of the combined weight of said glue, sodium carbonate and tri-sodium phosphate, and said sodium carbonate and said tri-sodium phosphate
20 being present in approximately equal amounts, cleaning the surface with said solution, and allowing an appreciable film of said solution to dry upon said surface whereby to leave an appreciable but transparent film of glue thereon.

ELIZABETH P. MACDONALD. 25
NAOMI W. STENGLLEIN.