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DETERSIVE COMPOUND.

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There is known to occur in nature a hydrous aluminum silicate to which has been given the name Bentonite (see "The Non-Metallic Minerals, George P. Merrill, 2nd ed., London and New York, 1910 pp. 246–7), and which has approximately the formula $H_2Al_2Si_4O_{12}$. Analyses of a number of samples of the mineral from different sources has revealed variations in composition, from which it would appear that the precise composition of the mineral depends to some extent upon its source of origin and the other minerals in the immediate vicinity. Analyses of samples from one source have shown the composition

	Parts.
SiO_2	63.25
Al_2O_3	17.62
Fe_2O_3	3.70
MgO	3.70
CaO	4.12
Na_2O	
SO_3	1.53
H_2O	9.17
Specific gravity	2.18

The samples were of a soft apple green colour, of smooth soapy feel and of laminar structure.

It is known that the said hydrous aluminium silicate has enormous absorptive power and is capable of forming a colloid or colloidal product when incorporated with solvents.

I have found that the colloid or colloidal product obtained by incorporating the said hydrous aluminum silicate with solvents has considerable technical value when incorporated with salts of fatty acids in the manufacture of soap and polishes and dressings, such as metal, furniture, floor, linoleum, leather, and like polishes, dressings and preservatives.

As an example of the preparation of the colloid or colloidal product, 10 cwts. of the hydrous aluminium silicate referred to may be placed in 1000 gallons of water. Absorption of water takes place rapidly and by simple stirring or agitation a homogeneous and perfectly smooth colloid or colloidal product is obtained. The hydrous aluminium silicate may be acted upon by the solvent in lump, granular or finely comminuted form.

The following exemplifies some of the ways in which the said colloid or colloidal product may be incorporated with salts of fatty acids in the manufacture of soap and polishes and dressings such as metal, furniture, floor, linoleum, leather, and like polishes, dressings and preservatives.

10 cwts. of the colloid or colloidal product produced as described may be incorporated in the usual crutching apparatus with 10 cwts. of soap, preferably while hot. The resulting absorption product, which varies according to the fatty acid present, is found to have an increased detergent value, is improved in appearance and cuts and moulds better than ordinary soap.

In the manufacture of metal polish, 1 cwt. of the colloid or colloidal product may be incorporated with 1 cwt. of sodium or potassium salt of a fatty acid, preferably a liquid member of the fatty series, such as e. g., ricinoleic acid. To the mixture are added 100 gallons of a spirit not usually soluble in water, such as, e. g., turps, benzine or other suitable grease solvent. On agitation of the mixture the colloid or colloidal product absorbs the grease solvent. 5 cwts. of an abrasive, such as silica, are then added and crutched into the mass which forms an excellent metal polish. The incorporation of the colloid or colloidal product has the effect of holding the heavy abrasive and light spirit together within the colloidal structure imparted to the mass by the colloid or colloidal product. It has been found that the addition of acids increases the property of holding up; e. g., the addition of 1% of a solution of boric acid was found to give good results.

The incorporation of the colloid or colloidal product with equal quantities of furniture, floor, linoleum, leather and like polishes, dressings and preservatives of known composition and containing salts of fatty acids, considerably enhances the smoothness, homogeneity and equality thereof. Further, the colloid or colloidal product is of such smoothness that it behaves to some extent as a polish, and its use effects economy in the use of higher priced polishing materials.

A very superior polish or dressing for leather and the like may be obtained by incorporating 2 parts of the colloid or colloidal product with a cream prepared from waxes, solvent and alkali, as, e. g., grey carnauba wax 5 parts, beeswax 5 parts, Japan wax 8 parts, carbonate of potash 5 parts and water 80 parts.

What I claim as my invention and desire to secure by Letters Patent is:—

1. As a composition of matter, a detergent product consisting of a homogeneous, smooth, aqueous emulsion containing a saponaceous substance, water, an organic grease solvent undissolved by the water, and an aluminium silicate having the hydratable colloidal properties of bentonite, namely that by simply stirring the said colloidal silicate with water a homogeneous colloidal solution is obtained.

2. As a composition of matter, a detergent product consisting of a homogeneous, smooth, aqueous emulsion containing a saponaceous substance, water, an organic grease solvent undissolved by the water, an abrasive, and an aluminium silicate having the hydratable colloidal properties of bentonite, namely that by simply stirring the said colloidal silicate with water a homogeneous colloidal solution is obtained, said colloidal silicate stabilizing the emulsion and maintaining the suspension of the abrasive therein.

3. A composition of matter in the form of a homogeneous, smooth, aqueous emulsion, containing bentonite, water, soap, and a water-insoluble organic grease solvent.

In witness whereof I have hereunto set my hand.

JAMES FREDERICK MOSELEY.