METHOD FOR IMPROVING TEXTILE MATERIAL. Winfrid Hentrich *et al.* (Heberlein Patent Corp.) *U. S. 2,263,-730.* A textile treating agent for imparting water-repelling properties to textiles consists in a carbodiimide having 2 aryl radicals and at least one alkyl radical contg. no less than 10 carbon atoms.

CHLORINE DERIVATIVES OF THE HIGHER FATTY ACID ALKYLOLAMIDE ACETATES. Mark Weisberg and Louis Corman (Alrose Chemical Company). *U. S. 2,266,-136.* The process for improving textile yarns and fabrics rendering them soft and smooth comprises treating them in a bath contg. a small amt. of a chlorinated derivative of stearic diethanolamide acetate made by reacting a member of the group consisting of ethylene chlorhydrin and polychlorhydrocarbons of not over 2 carbon atoms with stearic diethanolamide, said amide being of the kind produced by condensing diethanolamine with stearic acid in the ratio of 1-1/5-2 moles of the amine to 1 mole of the fatty acid, and then admixing this chlorinated amide derivative with acetic acid in an amt. which is 2 to 3 times the theoretical requirement for neutralizing the excess amine therein.

OIL-TREATED MINERAL WOOL. Walter V. Cullison (American Rock Wool Corp.). *U. S. 2,252,169.* An article of manufacture comprising mineral wool coated with a water-repellent material consisting of a homogeneous mixt. of mineral oil, Al stearate, and an alk. earth compd., said compd. being selected from the group consisting of an oxide or carbonate of one of the elements, Ca and Mg.

ELECTRICAL INSULATION VARNISH. W. F. Schaufelberger (Harvel Corp). *U. S. 2,264,409.* A varnish comprises essentially a heat reaction product of gilsonite, China-wood oil, and heat thickened alkyl ether of cashew nut shell liquid.

Abstracts

Soaps

Edited by
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MEASUREMENT OF SKIN PH. H. v. Czetsch-Lindenwald. *Fette u. Seifen 47,* 401-4 (1940). Investigations were made to det. what influence on the pH of the hand and arm was exerted by washing with water, soap, beauty cleansers, acids and alkalies; also the time required for the skin to return to its normal acidity. In the case of washing and shaving of the face, the skin returned to its normal pH in about 3 hrs. On warm days the skin was more acid than on cool days. The inside of the hand was more acid than the back of the hand and the arm. When the skin was washed with warm water the acid layer was unaffected. When the skin was washed with NaOH (1:1000) and rinsed with water it reacted alk. for a short while. Soaps displaced the pH toward alky. but hardly ever attained a pH of more than 7. Beauty prepns. forced the skin pH (I) up and leveled off the return to normal because they formed a film on the skin. Clays and preparatory washing agents did not influence I. Rinsing off the soap was necessary. If it was omitted the remaining soap film gave a strong alk. value. Petrolatum and lanolin did not alter the acid film of the skin. Stearate creams caused some displacement to the alk. side. They seemed to operate either by splitting off the skin fatty acids or by combining with them. Acids were of importance in salves only when they were dissolved. Acid prepns. which were buffered insured an acid I for many hrs., and in general to the next washing. On the other hand alk. salves were neutralized on the skin in a few hrs. In general, only a few washing agents displaced I to the alk. side. The acids of the skin were moderately resistant to water and fat solvents. *(Chem. Abs.)*

DETERGENT ACTION AND SKIN PROTECTION. Giuseppe Fachini. *Riv. ital, essenze profumi, piante offic., olii vegetali, saponi 23,* 273-8 (1941). The pH values of the hand and arm skin were detd. before and after cleaning with several types of soaps and detergents, and the time necessary for the return of pH to the original value was recorded. For the ordinary and pharmaceutical soaps the increase of pH was 2.0-2.5 units and the time to reach the original value about 24 min.; with soaps contg. pectin substances and with sulfonic acid coaps, the increase was 0-0.6 pH units and the corresponding time 0-9 minutes. These soaps seem to be less injurious to the skin. *(Chem. Abs.)*

REFLECTOMETER. Anon. *Textile World 91,* No. 12, 88 (1941). A reflectometer suitable for the textile industry was developed by the Henry A. Gardner Labs. Measurements of interest to textile men, which the meter is designed to give, include determination of cleaning effect of soaps and detergents on soiled cloth; determination of colorimetric specifications of surfaces; measurement of color differences and change; determination of which of a number of samples is closest to a standard color measurement of bleaching, amount of blueing and tinting strength; determination of resistance to weathering, wear abrasion, etc.; and others.

SILVER POLISHES. C. T. Small. *Chem. Ind. 49,* 648-50 (1941). Formulae are given for typical silver polishes in paste form. They contain around 15-20% diatomaceous earth, 2-8% soap — tallow or Na stearate,, 0.5-1% soda ash, Na silicate, metasilicate, borax (not recommended) or TSP, and around 80% water. The soap acts as an emulsifying agent for the abrasive, and the alkali acts as a soap builder. Liquid silver polishes, very similar to brass polishes, contain amorphous silica—25%, 5-6% soap, soda soap or ammonium oleate, ammonia and water. Alcohol may be used as a solvent. Glycerine is sometimes added as hygroscopic agent.

Aluminum polishes contain tripoli (comparable to silica) dissolved in naphtha, ammonium stearate soap, and excess stearic acid to leave a sheen on the aluminum. Steel wool aluminum polishes contain Na oleate soap of stearic acid and water. A product containing dolomitic limestone, soda soap and Na silicate (1.5%) is advertised to clean and polish without scratching.

PHOSPHATES. Symposium presented at Div. of Ind. Eng Chem. and Fertilizer Chemistry at 102nd Meeting of the A.C.S. *Ind. Eng. Chem. 34,* 9-58 (1942). This series of articles covers phosphate deposits, defluorinated phosphate rock, alkali metal meta- and

poly-phosphates and their function in water-softening, tetrasodium pyrophosphate and soap, monocalcium phosphate, organic phosphate cpds., phosphorated oils as plasticizers, alkyl phosphates to inhibit corrosion and stabilize oils against deterioration by certain oil components, phosphoric acids as catalysts for polymerization of hydrocarbons or vegetable oils, mfg. of alkyl phosphates, textile treating with phosphates, acidic accelerators for urea-formaldehyde alkyd resin enamels, metaphosphate production, phosphates in water-conditioning, phosphate fixation in soil, etc.

EFFECT OF WETTING AGENTS ON ELECTRODEPOSITION OF NICKEL. R. F. Davis, Kathryn M. Wolfe, and W. G. France. *Ind. Eng. Chem. 33*, 1546-8 (1941). Of the surface-active agents used, Igepon-T produced the most satisfactory deposits. In general, the strongly active agents were more effective than the mildly active ones. These wetting agents rapidly lowered the surface tension of the nickel plating bath to a relative constant value. The most satisfactory deposits were obtained at the lowest surface tensions—e.g., 30-35 dynes per cm. Apparently other factors than a sufficiently lowered surface tension determine the effect of the wetting agent on the character of the deposit. It is suggested that one factor may be the specific adsorption of the wetting agent by the growing nickel crystal with an accompanying modification of its crystal habit.

FROZEN EGGS. ICE AND REFRIGERATION. *102*, 62-4 (1942). It was shown from this study that frozen eggs are highly acceptable for baking cakes. In every case except one, the cakes made from frozen eggs scored as high or higher than those made from fresh eggs. It was also shown that frozen whole eggs with 3% glycerine gave a smoother, finer, more even grain than either fresh eggs or frozen eggs without the glycerine. From 1 to 3% salt in the frozen eggs markedly increased the flavor of gold and butter cakes.

PATENTS

SOAP PACKAGE. Walter V. Shearer and Garrison Householder. (The Plastic Coating Corp.). *U. S. 2,267,310.* A package comprising a bar of soap, heat sealed in a sheet of wrapping material, provided on one side with a moisture- and alkali-resistant coating of vinyl resin adapted to counteract the emission of characteristic constituents of the soap for reducing wastage and deterioration thereof.

METHOD TO IMPROVE THE WATER-SOLUBILITY OF INSOLUBLE OR INSUFFICIENTLY SOLUBLE ORGANIC MATERIALS. Richard Hueter ("Unichem" Chemikalien Handels A.-G.). *U. S. 2,267,101.* An aq. soln., consists of materials of the group consisting of phenols and fatty acid derivates contg. fatty acid radicals of 6 to 10 carbon atoms of the group consisting of soaps, soap-like fatty acid esters contg. in the ester group a water solubilizing radical, and soap-like fatty acid amides contg. in the amides group a water solubilizing radical. The solns. are used as disinfectants, vermicide, etc.

METHOD OF MAKING ALUMINUM SOAPS. Chas. J. Boner (Battenfeld Grease and Oil Corp.). *U. S. 2,267,148.* A method of making Al soaps including the steps of reacting $Al(OH)_3$ with a saponifiable org. acid in the presence of an alk. catalyst selected from the class consisting of the hydroxides and carbonates of K, Na and NH_4.

GERMICIDAL DETERGENTS. Halvor O. Halvorson, *et al.* (Economics Laboratory, Inc.). *U. S. 2,263,948.*

SULPHURIC ACID DERIVATIVE OF ALKYL PHENOLS. Lucas P. Kyrides (Monsanto Chemical Co.). *U. S. 2,267,687.* A detergent and wetting agent comprising essentially an alk. metal salt of the sulphuric acid derivative of a reaction product of di-iso-butylene and phenol.

PREPARATION OF SULPHONIC ACIDS. Arthur Lazar and Paul Moritz Ruedrich (Tide Water Associated Oil Co.). *U. S. 2,263,041.* A solvent extn. method of recovering sulphonic acids from petroleum acid sludges.

LUBRICATING OIL COMPOSITION. John E. Schott and Leonard R. Churchill (Tide Water Associated Oil Co.). *U. S. 2,253,399.* Small amts, of Al stearate and triethanolamine are added to mineral oil lubricants.

QUATERNARY AMMONIUM COMPOUNDS. Clyde O. Henke and Josef Piki (E. I. du Pont de Nemours & Co.). *U. S. 2,268,395.* Reaction products of stearamido-methyol, trimethylamine. H Cl and ethylene dichloride or like compds. are prepd. for use as textile treating agents.

CONCENTRATING ORES. Anderson W. Ralston and William O. Pool (Armour & Co.). *U. S. 2,267,307.* In the froth sepn. of metalliferous ores, the step comprises effecting the froth sepn. in the presence of a straight chain unsaturated primary aliphatic amine having at least 10 C atoms.

TOILET SOAP PROCESS. John Bodman (Lever Brothers and Unilever, Ltd.). *Brit. 539,718.* The object of this invention is to produce a good lathering, floating soap by the converter process. The converter process, described by Pease in *U. S. 2,048,286*, operates best at a moisture content of 8-25%, in which range the lathering properties of toilet soaps are poor. It is shown that the addition of a minor proportion of a potash soap will overcome this drawback. The potash soap is made preferably from coconut oil; the proportion to be added depends upon the titre of the fatty acids—in general 5-15% calculated on the anhydrous soap. The soap may also be mixed in the Banbury mixer, as described in *U. S. 1,200,070.*

The incorporation of the potash soap with a normal toilet soap base may be effected in various ways, either prepared separately, or simultaneously. According to a preferred method, however, the potash soap is prepared and simultaneously blended with the soda soap in the crutcher. The soda soap as it comes from the pan is pumped into the crutcher and the calculated amount of coconut oil is crutched into the soda soap while the mixture is heated to 85° C. The caustic potash is then added gradually to the crutcher mix with sufficient water to bring the total moisture content to approximately 30%. The temperature of the charge is raised to 95° C. and crutching is continued for ten minutes at about this temperature. Finally, the alkalinity of the charge is adjusted if necessary.

The finished product, whether aerated or not, in the form of cakes and bars has the firmness and fine grain or texture of the best milled soaps. In addition to these properties, the product, unlike milled soap, may be a floating soap and has a homogeneous structure free from laminations and cleavage planes, and but little tendency to swell or crack when left in water.