sodium ferrocyanide, to decrease the acidity, then treating the oil with an alkali to neutralize additional acid and form soap, and separating the soap from the remaining oil is described.

PROCESS FOR REFINING OILS. B. Clayton, W. B. Kerrick, and H. M. Stadt (Refining Co.). *U. S. 2,247,359.* The principal object of the invention is to reduce the time period in the separation of the various constituents of oils, such as the "foots" from cottonseed and similar oils in a continuous system.

METHOD FOR REFINING ANIMAL AND VEGETABLE OILS. Benj. Clayton (Refining, Inc.). *U. S. 2,254,101.* A process of refining oils of the animal or vegetable type contg. mucilaginous matter and other impurities comprises the steps of: mixing with said oil an aq. medium for which said mucilaginous matter has an affinity and which is capable of impregnating said mucilaginous matter; then adding to and mixing with the resulting product while the impregnated mucilaginous matter remains uniformly suspended therein a refining reagent capable of acting upon said impurities to form foots; conditioning the resulting mixt. of oil and foots by flowing same through an elongated passage while maintaining such flow conditions therein as to prevent said foots from separating out of said oil; subjecting the conditioned products to centrifugal action as fast as they issue from said elongated passage to continuously separate the oil from the remaining constituents of said conditioned products; and maintaining such temp. conditions in the process as will deliver the conditioned products to the zone of centrifugal sepn. in nonemulsified condition.

THERAPEUTICS. K. C. D. Hickman (Distillation Products, Inc.). *U. S. 2,256,392.* The process which comprises in combination extracting oil from fish liver with a low vapor pressure solvent which has been freed of substantially all volatiles contained therein by high vacuum distillation, separating the solvent and oil from the fish liver tissue and then subjecting the solvent-oil mixture to vacuum distillation to separate the vitamin content thereof is described.

Abstracts

Soaps

Edited by
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GLYCERINE KEEPS PACE WITH TEXTILE PROGRESS. Georgia Leffingwell and Milton Lesser. *Rayon Textile Monthly, 22,* 9, 72 (1941). The uses of glycerine and glycerine derivatives are reviewed. Glycerine is incorporated in many dyeing and printing formulas. The ripening of cellulose acetate is effected in the presence of glycerine; the fibers retain their resiliency and crimp under such treatment. The alcoholic alkali bath for reducing the shrinkage of wool contains 1% of glycerine to inhibit discoloration.

Alkyd resins in finishes have opened up new markets for cotton and rayon fabrics. These resins are used as adhesive and binding agents in resin emulsions for printing and finishing. Fabrics are made transparent and impermeable to fluids and at the same time increasing their gloss by impregnation with a non-drying or semi-drying oil-modified alkyd resin; in conjunction with urea-formaldehyde condensation products. This new process eliminates discoloration and tackine as under heat treatment. Urea-formaldehyde-alkyd combinations are also used for printing and decorating textile fabrics.

Glycerine-sebacic acid-condensation products are used to produce waterproofing lacquers, and combined with castor oil, plasticize a urea-formaldehyde condensate for emulsions for treating textile materials. Wetting agents containing triethanolamine, coconut oil, and glycerine, or ricinoleic acid, glycerine, and boric acid were patented recently. Beta methyl glycerine monochlorhydrin, sodium sulfite, and a long chain fatty acid make good foaming agents, detergents, and emulsifiers. Latex and glycerine form a water-proofing composition for cloth. Inks and glycerine compositions contain dyes that are substantially invisible under ordinary light, but clearly visible under ultraviolet light.

RELATION OF CALCIUM SOAPS TO STAPHYLOCOCCAL INFECTIONS IN THE SKIN. K. K. Jones and Marie Lorenz. *J. Investigative Dermatol. 4,* 69-80 (1941). Ca ions in oil-water mixts. contg. bacteria facilitate the passage of bacteria into the oil layer. Bacteria are viable for at least 2 weeks' time in Ca soap ppts. The incorporation of avirulent strains of staphylocci into Ca soap-oil mixts. increases the ability of the organisms to enter follicles and sebaceous glands and produce infection. The prevention of Ca soap formation in wash water and its deposition on skin, hair or clothing is an active prophylactic measure. Ca soaps may protect bacteria against disinfecting and bacteriostatic agents. (*Chem. Abs.*)

THE GLASSY CONDITION OF SOAP. B. Tyutyunnikov, Z. Pleshkova, and A. Chernichkina. *Seifensieder-Ztg. 68,* 193-4, 205-6, 215-16, 227-8, 237 (1941). A review of conditions leading to the formation of transparent soaps including both cold-made and milled varieties. In the latter, transparency and hardness are favored by strong cooling of the rolls; opacity is favored by less cooling. The temperature during plodding must be kept between suitable limits. The authors have constructed a special nozzle for the plodder in which the soap is pressed through an annular orifice, both the internal and the external parts of the orifice being water cooled. By this, greater phys. homogeneity is promoted and crystn. of part of the transparent soap is prevented thereby. (*Chem. Abs.*)

THEORY OF PURIFYING SPENT SOAP LYE. M. Zaliopo. *Masloboino-Zhirovaya Prom. 16,* No. 5/6, 28-30 (1940). Though spent soap lye contains perhaps only 0.1% of lower Na soaps (caproate to caprate) after salting out the higher soaps (laurate, myristate) removal is essential to the quality of glycerol recovered from the lye. About half of the lower fatty acid con-

tent is removed by extg. the faintly acidified lye with a melt of hydrogenated oil. Evapn. to 40-50% glycerol content and pptn. as alk. earth or heavy metal soaps is a more effective method; so is adsorption with 0.2% of active carbon from the acidified lye at 80°. One of the best coagulants for deproteinizing spent lye is $Al_2(SO_4)_3$, since it can also serve as a source of $Al(OH)_3$ for adsorption of colored impurities. The best result is given by adding $Al_2(SO_4)_3$ till pH is in the range 5.5-6.5. (*Chem. Abs.*)

SOME NEW AND FUNDAMENTAL DATA ON PH. Thomas H. Vaughn and Leslie R. Bacon. *Starchroom Laundry J. 48,* No. 9, 46 (1941). An investigation was undertaken to determine whether or not any relation exists between pH and detergency. The work was done with a high grade 92% tallow soap at 0.1% concn. having a titer of 40° C., both built and unbuilt; the modified soda (0.001-2% concn.) met with ASTM specifications. Distilled, CO_2-free water was employed. The accuracy of various means of pH measurement was studied (two electrometric and two colorimetric). Curves are given for variation of pH with temperature, pH-temperature relationships of two higher pH alkalies, variation of pH with modified soda concentration, and comparison of electrometric and colorimetric values.

It was concluded that:

1—pH is not suited for the determination of the amount of supplies necessary for laundry work, since at working concentrations pH is not a sensitive measure of concentration.

2—pH changes vary considerably with differences in temperature.

3—The pH change due to temperature is not the same for all built soap solutions.

4—Colorimetric pH determinations can be expected to be accurate only at room temperature and give no reliable information on pH readings at washing temperatures.

5—Colorimetric pH determinations at room temperature may be in error by large amounts at low builder concentrations both in the presence and absence of soap.

6—An investigation of pH determinations made by laundries has shown a very wide variation in accuracy.

THE EFFECT OF DISHWASHING COMPOUNDS ON ALUMINUM. J. F. J. Thomas. *Can. J. Research 19B*, 153-7 (1941). Several proprietary dishwashing compds., in ½% soln., were found appreciably to attack com. Al and Al utensils. Curves are shown illustrating also the corrosive effect on com. Al of ½% aq. mixt., in various proportions, of the salts usually present in such compds. Na metasilicate was found to be a more efficient inhibitor than either trisodium phosphate or sodium pyrophosphate. Replacement of the soda ash by either trisodium phosphate or Na pyrophosphate so as to give a final soda ash content of 40 to 45% was required before less sodium metasilicate than about 20% produced inhibition of the attack. T. concludes that the addn. of about 25% sodium metasilicate to such proprietary compds. is advisable. (*Chem. Abs.*)

PATENTS

DETERGENT COMPOSITIONS. Waldemar Mitscherling (John J. O'Connor). *U. S. 2,244,271.* A method of making detergent compositions which consists essentially in providing an alkylolamine, adding thereto with stirring a higher fatty acid derived from vegetable and animal glyceride oils, the temperature being approximately room temperature, the ratio of acid to amine being about 1 to 5 by volume, allowing an addition reaction to take place until the spontaneous rise in temperature resulting from said reaction ceases, adding a further amount of said acid and repeating the procedure until volume of acid equals that of said amine, adding with stirring an amount of water equal to about ⅕ part by volume to the product of said amine and acid together with ⅕ part by volume, as a catalyst, of monoethyl ether of diethylene glycol, allowing hydrolysis to take place with a spontaneous rise in temperature, adding about 10.8 parts by volume of water and ⅘ part by volume of said ether and allowing the hydrolysis to go to completion whereby a composition containing products of hydrolysis, said glycol ether and water results.

METAL FORMING AND DRAWING LUBRICANT. Robert Williams (Ironsides Co.). *U. S. 2,251,093.* A lubricant in dry comminuted form for use in metal forming operations composed of a mixture of finely divided hydrated lime and a coating of metallic stearate distributed uniformly over the surface of the individual particles of lime by means of a solvent solution of the soap from which the solvent subsequently is removed from the mixture, the ratio of the lime to the metallic stearate being approximately five to one.

SOAP PLODDING. Bruce Strain (Procter and Gamble Co.). *Canadian 398,321.* In a process for plodding milled soap to form a homogeneous bar, the soap is de-aerated under superatmospheric pressure, kneaded, and forced toward an extrusion orifice against opposing superatmospheric de-aerating pressure. The soap passes through an unobstructed elongated welding zone in its path to the extrusion orifice. The de-aerating pressure is greater than that required for extrusion alone.

DRY CLEANING SOLVENT. Albert Richardson (Procter and Gamble Co.). *U. S. 2,251,691.* As a new composition of matter possessing improved cleansing power, a dry cleaning solvent in which has been incorporated from about .025 per cent to about 6 per cent of a polyglycerol partially esterified with a mixture of fatty acids containing in predominant proportion saturated fatty acids having from eight to twenty-two carbon atoms.

DRY CLEANING SOLVENT. Nathaniel Beverley Tucker (Procter and Gamble Co.). *U. S. 2,251,694.* As a new composition of matter possessing improved cleansing power, a dry cleaning solvent in which has been incorporated from about .025 per cent to about 6 per cent of an ester derived from a water-soluble aliphatic hydroxy carboxylic acid and an aliphatic carboxylic acid having from eight to twenty-two atoms of carbon, said ester being "balanced" in that the ratio of the total number of free hydroxyl and carboxyl groups in the hydroxy acid portion of the ester to the number of esterified hydroxyl groups is at least one.