ble of becoming rancid comprises admixing said substance while in liquid form with a tannin and thereafter filtering said treated substance to remove a tannin compd.

ADSORPTION RECOVERY OF PHOSPHATIDE MATERIAL FROM VEGETABLE OILS CONTAINING IT. H. R. Kraybill, P. H. Brewer and M. H. Thornton (Purdue Research Foundation). *U. S. 2,353,571.* Method of recovering phosphatide material from a vegetable oil consists in bringing the vegetable oil and a phosphatide-material adsorbing solid into intimate contact to cause adsorption of said material upon said solid, separating said solid with the adsorbed material, washing the said solid with an oil solvent, removing the phosphatide material from said solid by washing with solvent evaporation of the solvent.

HYDROGENATION OF OIL. Maurice M. Durkee (A. E. Staley Manufacturing Co.). *U. S. 2,353,229.* The process of producing a non-reverting comestible soybean oil by selective hydrogenation comprises treating said oil in an hydrogenator with a suitable selective catalyst within the range of 0.001 to 0.02% based on the wt. of the oil, agitating the treated oil at a rate which will prevent spraying, creating a vacuum in said hydrogenator above the oil level, applying heat to the oil until a temp. between 130° C. and 180° C. has been reached, maintaining an atm. of H_2 above the surface of the oil and maintaining said conditions until an I value not less than 125 for said oil has been reached.

PREPARATION OF AMINES BY HYDROGENATION OF FAT ACID NITRILES. H. P. Young, Jr. (Armour and Co.). *U. S. 2,355,356.*

PREPARATION OF UNSATURATED HYDROCARBONS FROM PRIMARY ALIPHATIC AMINES. M. R. McCorkle. (Armour and Co.). *U. S. 2,355,314.*

PREPARATION OF A PHOSPHATE COMPOSITION. P. L. Julian and E. W. Meyer. (The Glidden Co.). *U. S. 2,355,081.* Phosphoric acid is added to phosphatides to increase their soly. in oils.

OAT EXTRACT USEFUL FOR ADDITION TO FOODS FOR ANTIOXIDANT AND OTHER PURPOSES. S. Musher. (Musher Foundation Incorp.). *U. S. 2,355,097.* A method of making an antioxidant comprises extg. an oat product with water, adding to the ext. a low mol. wt. aliphatic alc. and then removing the insol. material.

EXTRACTION OF STEROLS. R. F. Light, H. Kothe, and C. N. Frey. (Standard Brands, Inc.) *U. S. 2,355,661.* A method of extg. sterols by first sapong. and then extg. with an org. solvent is described.

POLYGLYCOL ETHERS OF HIGHER SECONDARY, MONOHYDRIC ALCOHOLS. F. Schlegel. (The Procter & Gamble Co.). *U. S. 2,355,823.* As a new product a waxlike mass consists of polyglycol ethers of higher mol. monohydric secondary, straight chain aliphatic alcohols, having at least 11 C atoms.

SUBSTITUTED GLYOXALIDINES. A. L. Wilson. (Carbide and Carbon Chemicals Corp). *U. S. 2,355,837.* The waxy compd. is prepd. by the action of diethylene triamine and a fat acid in hydrocarbon solvent.

Abstracts

Soaps

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NEWER INDUSTRIAL USES FOR SOAPS. Milton A. Lesser. *Soap 20*, No. 8, 25-28, 70 (1944). This article describes the role of soap in modern industrial operations. These uses include emulsion polymerization of synthetic rubber emulsification of reclaim rubber, lubricants in the molding of rubber, prevention of water seepage into both oil and gas wells, emulsification of compounds in various types of construction treatment such as road building, flotation agent in ore concentration work, case hardening of metals, metal drawing, use in water-emulsion paints, in textile processing for scouring of raw wool, cleansing of oily piece goods, bleaching and cleaning of cotton and rayon goods and many other uses. References are given for all the applications listed.

CRYSTALLIZATION OF BINARY AND COMMERCIAL SOAP SYSTEMS. R. H. Ferguson and H. Nordsieck. *Ind. & Eng. Chem. 36*, 748-52 (1944). From a study of long spacings of x-ray diffraction patterns, the following conclusions can be drawn relating the nature of crystalline phases in the solidified soap systems: 1. Fractional crystallization into the single-constituent soap is completely absent, as either anhydrous binary soap systems or the more complicated commercial soap systems crystallize. 2. Fraction crystallization into different solid solution phases can occur in certain restricted composition ranges, as in binary systems, but only one solid solution phase has been found in typical unbuilt commercial soap systems. 3. In the typical anhydrous binary system sodium myristate-sodium palmitate, where the components are even-numbered adjacent homologs, a continuous series of solid solutions occur, with nearly linear variation of the long spacing with composition. 4. Where the components differ by four CH_2 groups, as in the system sodium laurate-sodium palmitate, the behavior is more complex. A laurate-rich solid solution separates at the laurate end and a palmitate-rich solid solution separates at the palmitate end of the system. 5. In a system in which the components are even further separated by six CH_2 groups, as in the system sodium laurate-sodium stearate, a still more involved behavior is found. Here three different solid solutions are able to exist. While no detailed evidence is included here, the short-spacing x-ray patterns of these binary mixtures are essentially independent of composition. The short spacings are thus uniquely useful in detecting changes in crystal modification over wide ranges of fatty composition. Their value in the complicated mixtures involved in commercial soaps needs scarcely be emphasized.

MODERN FAT SPLITTING METHODS. *Soap 20*, No. 8, 57, 59 (1944). Modern fat-splitting processes obtain high yields of glycerine by working with the right proportions of water to fatty oil and operating in such a way that the products of hydrolysis are removed. The continuous process is modern development. It has the advantages of requiring smaller equipment for the same output, is more accurate, has automatic control, and produces a product of homogeneous characteristics. Various other methods including continuous spraying process and soda process are described.

THE RECRYSTALLIZATION OF NA SOAPS IN MINERAL OILS. Wilfred Gallay and Ira E. Puddington. *Can. J. Res. 22B*, 90-112 (1944). The effect of rate of cooling, acidity and alky. of the soap, concn. of the soap, unsatn. in the soap, polarity of the oil, effect of additives such as glycerol and external shearing forces are described. Nonpolar oil acts as an inert diluent, and recrystn. is essentially that from a hot melt. Polar compds. exert some solvent action on the soap in the mesomorphic states, and shear is an important factor in detg. the form of recrystd. soap in such systems. The prepn. of a Na soap lubricating grease is essentially a recrystn. of the soap, and the properties of the grease can be altered over a wide range by suitable adjustment of the factors during recrystn. (*Chem. Abs.*)

INVERT SOAPS. H. Moll. *Pharm. Zentralhalle, 84*, No. 4, 37-44, No. 5, 40-52 (1943). A review of the chemistry and disinfectant properties of quaternary ammonium salts contg. alkyl groups of the fatty acid chain type. The product Zephirol, an alkyl dimethyl benzyl ammonium chloride, is discussed and its disinfecting power is compared with similar compds. having different substituents. Sixteen references. *(Chem. Abs.)*

SOAP PLANT SURVEY. IV. SUPPLEMENTARY. *Perfumery & Essential Oil Record 35*, 173-5, (June, 1944). The bar soap may be cut for the purpose of stamping into lengths as it issues by a simple device on the nozzle of the plodder. A newer method is that of the rotary cutter. Following cutting, the bars are stamped. For hand stamping, the presses are simply a plunger operated by a lever of varying kinds. The pendulum press is now more prevalent and is operated by foot power assisted by the counterweight of the pendulum. Power presses are suitable for large tablets or bars and are similar in construction to the pendulum press. However, automatic stamping presses are the more recent and very useful in large-scale production. Wrapping and cartoning machines which will wrap bars in paper and fill cartons are also described.

SOAP PRODUCTION FROM MIXTURES OF NATURAL AND SYNTHETIC OLEFINIC HYDROCARBONS L. Spirk. *Casopis Mydlar Vonavkar 20*, 97-8 (1942). The various raw materials are: lignite coking oil (boiling range, 200-350°), definite fractions of cracked gas oil (boiling range, 200-325°) with 70-75% olefins of natural origin or synthesized by hydrogenation of CO. Production of these synthetic raw materials and oxidation of the products are discussed. The fatty acids produced are neutralized at 250-300° with amines or alk. earths. The soaps are odorless and contain no unsaponifiable matter. Four practical methods of producing these soaps are described. *(Chem. Abs.)*

FIBER STRUCTURE IN DISPERSIONS OF SOAP IN MINERAL OIL. Wilfred Gallay, I. E. Puddington, and James S. Tapp. *Can. J. Res. 22B*, 66-75 (1944). The phys. properties of these dispersions depend largely on the degree of dispersion of the soap. Ca and Al soap dispersions yield a short unctuous texture owing to the small size of the soap fibers in these systems. Na soap dispersions show a wide range of texture from a smooth to a very fibrous character, and this is related to the dimensions of the fibers in the dispersion. These fibers were examined by transmitted polarized light, which shows a definite two-phase system consisting of a suspension of fibers in oil. By use of a micromanipulator it was possible in some instances to pull out long fibers. Glycerol is essential for the production of long fibers in ordinary practice, because the oil can wet the soap in its presence. (*Chem. Abs.*)

DETERMINATION OF THE DETERGENCY OF WASHING AGENTS. Ed. Jaag. Tech.-Ind. schweiz. *Chem. Ztg. 25*, 331-6 (1942). A new method is reported for the lab. detn. of the detergent value of a washing prepn. Pieces of cloth soiled with India ink, with India ink and mineral oil, and with India ink and vegetable oil were washed with various detergents. The washing efficiency of almost all the synthetic products tested was improved by the addn. of soda. Although soap without soda shows a max. detergent effect, soda can be added to the soap soln. to bring the pH to 10.7, at which value the detergent action of the soap is at a max. Soda alone shows considerable detergent action. Sulfonates of the aliphatic alcs. showed essentially better wetting properties than a condensation product of the aliphatic acids. The addn. of a slight amt. of a protective colloid (a cellulose deriv. to the aliphatic alc. sulfonate increased the detergent strength 20%. Saponins showed no detergent action. The different detergents behaved differently toward the various types of soil, so that lab. results can be used to det. the best detergent for a particular purpose. (*Chem. Abs.*)

PATENTS

DIVISIBLE SOAP BAR. James E. Egan (The Procter & Gamble Co.). *U. S. 2,339,773.* A method of making a bar of soap which may be broken in two by perforating the bar with a series of thin steel blades or needles and then stamping the bar with enough pressure to collapse the perforations near the surface.

MANUFACTURE OF SOAP. Ashton T. Scott (The Sharples Corp.). *U. S. 2,348,855.* Improving the continuous soap manufacture process which includes mixing saponifiable fat and a saponifying reagent to a saponifying temperature, salting out the resulting soap, and separating soap by centrifugation, by artificially extracting heat from the mixture after the beginning of the saponification reaction to more nearly completely utilize all the saponifying reagent and to save electric power.

SOAP CHIP DISPENSER. Richard M. Storer. *U. S. 2,349,017.* An apparatus for preparing soap chips from bar soap comprising a container for the soap, an oscillatory cutter containing several members far apart to enable the cut soap to be discharged, and a means for pressing the soap against the cutters.

HYDROLYZING FATS. Norman G. Robisch (Procter & Gamble Co.). *British 551,710.* Preheated water and preheated soln. of water in fat are passed in countercurrent flow in intimate contact with each other at a temp. of 365-600°F. and a pressure of 150-160 lb. per sq. in. The preheated soln. of water in fat is prepd. by introducing steam into fat while maintaining sufficient pressure to cause the steam to condense. *(Chem. Abs.)*