

elongated neck, means for introducing a gaseous medium in said neck and a plurality of perforated plates mounted upon a rotatable shaft positioned within said cone whereby said gaseous medium may be disintegrated into small bubbles within the mass of oil.

Treatment of soya bean oil. A. K. Epstein. U. S. 2,128,925-6-7. The methods of improving soy bean oil, particularly with respect to extending its pre-reversion period comprise adding (1) mono- and/or di-glycerides, (2) phosphoric acid esters of patents 2,026,785 and 2,052,029 or (3) mixt. of compds. under 1 and 2, and deodorizing with steam under vacuum.

Fat and oil. K. Ludecke. Ger. 662,794. In the production of fats from sugars and other carbohydrates the carbohydrates are mixed with seeds and warmed to 60° before fermenting.

Distilling, purifying and preserving oils and fats. K. C. Hickman (to Eastman Kodak Co.). Brit. 480,885. An antioxidant which distills with the oil is added to the oil to protect the distillate.

Shortening. Indus. Pats. Corp. Brit. 481,619. A small amt. of hydrogenated refined soy bean oil is used to stabilize lard against rancidity.

Shortening composition. C. E. Morris (to Armour & Co.). U. S. 2,125,849. The shortening is composed

of edible fat contg. small amts. of lecithin and triethanolamine, the triethanolamine acting as a stabilizing agent.

Emulsion. H. Schrader and H. Stahl. (Th. Goldschmidt A.-G.). Ger. 663,065 Cl. 23 Gr. 2. The emulsifying agent comprises mono- and di-glycerides and compds. of split proteins and fat acids.

Emulsifying agent and method of preparing same. K. T. Steik and S. C. Fulton (to Standard Oil Devel. Co.). U. S. 2,126,054. The emulsifying agent comprises a portion of sulfonates derived from petroleum and a portion of alc. amine soap.

Distillation process. K. C. D. Hickman and J. C. Hecker. U. S. 2,126,467. App. for shortpath high vacuum distn. is described.

Medicinal oleaginous distillation. K. C. D. Hickman. U. S. 2,126,466. Unsatd. glycerides of medicinal value are separated from vegetable oils by shortpath distillation.

Process of treating vegetable and animal oils and product obtained thereby. I. M. Colbeth (to the Baker Castor Oil Co.). U. S. 2,125,544. A tough resilient product that flows slowly when it is cold is prepd. from castor oil by heating the oil with boron compds. until the foaming stops.

ABSTRACTS

Soaps

Edited by M. L. SHEELY

Rancidity prevention in soaps. Paul I. Smith. *Seifensieder-Ztg.* 65, 568, 588-9 (1938).—Sodium thiosulfate is one of the most well-known antioxidants for soap. However, it has disadvantages in that it affects perfume chemicals, yields sulfur precipitates in the presence of some chemicals used in soap, produces discolorations in presence of traces of iron or copper salts, and it is corrosive. The improvement of soap stability is connected with good manufacturing technic. The quality of fats and basic chemicals, and suitability of superfatting agents are important. Poor quality supplies may contain metallic and other impurities which accelerate oxidation. The superfatting agent should be very stable. The kettle soap should contain 0.1% free alkali. Small amounts of salt are important because they, as buffers, reduce the effect of the free alkalinity. Perfumes and perfume chemicals which have antioxidative properties should be preferred. Select packing material that will not add metallic contamination and that will give protection from the accelerating action of certain light rays. In regard to antioxidants the following had been proposed: (1) borax, (2) sodium thiosulfate, (3) sodium hydrosulfite, (4) sodium sulfite, (5) salicylic acid, (6) sodium salicylate, (7) benzoic acid and (8) sodium benzoate, (9) stannous chloride, (10) stannous oxide, (11) sodium stannate, (12) magnesium silicate and (13) paraformaldehyde as well as treatment of oils with oil antioxidants.

Cold-process soaps. J. Davidsohn and A. Davidsohn. *Soap, Perfumery and Cosmetics* 11, 601-5 (1938).—The description includes: Equipment required, saponification process, quantity of lye required and filling. A semi-warm process is also completely described.

Soap color psychology. Gerd Klaass. *Soap, Perfumery and Cosmetics* 11, 542-4 (1938).—The importance of color as a soap sales factor was investigated. At two bath houses where bathers had access to 2,000 bars of soaps of several colors, the soaps were exhausted in the following color order: (1) white, (2) orange-red and yellow-green, (3) blue-green, (4) violet, (5) orange, (6) yellow, (7) red and (8) blue. One hundred persons, 50 men and 50 women were asked to select their preference of 6 soaps. The replies were:

	Men	Women
White, 11	7	4
Orange-red, 18	5	13
Yellow-green, 27	19	8
Blue-green, 18	12	6
Green, 12	6	6
Violet, 14	1	13

The latter test indicates that colors between yellow and green are those preferred for colored soap.

Structure of lubricating greases. A. S. C. Lawrence. *J. Inst. Petroleum Tech.* 24, No. 174, 207-20 (1938).—Soap-oil systems may be either (1) a true soln. whose viscosity is but little higher than that of the oil alone, (2) true gel, a homogeneous, transparent, elastic substance or (3) pseudo-gel or paste of soap crystallites suspended in oil. Soda- and Al-base greases are of the third type; Ca-base grease is probably a gel. The temp. range of rigidity required is one of the factors deciding the choice of soap. Pressure feeding is not necessary if the soap is so chosen that the m.p. or liquefying temp. is below the temp. of the bearing. Soaps are not dissolved by the oil on heating; the soap lattice opens up and the oil penetrates between the hydrocarbon chains. Free fatty acids added to the

ABSTRACTS

Soaps

Edited by M. L. SHEELY

compn. change the phys. properties to a marked degree. Anhydrous Na stearate caused no gelation when dissolved in Nujol; a min. of about 6% of H₂O was necessary. The addn. of substances that are not too polar, especially the glycerides, prevents the particles of soap from becoming too large and gives a smoother texture. It is suggested that any fatty acid added forms a complex with the soap, and the complexes are more sol. than the neutral soap. (*Chem. Abs.*)

Detergency of soap and fixing of oil proportion in making a good washing soap. P. N. DasGusta. *Indian Soap Journal* 4, 197-9 (1938).—From the various theories of detergency it may be assumed that it depends on wetting power, emulsifying power and gelation of soap solns. Wetting power is inversely proportional to surface tension. The myristate has the lowest surface tension, and thus it can be said that wetting power is a function of sapon. The emulsifying power can be assocd. with low gold no. which is found in soap solutions of unsatd. fat acids, so that emulsifying power is taken as a function of I no. Gelation is observed chiefly in a soln. of stearate and hence gelation can be taken as a function of titer. Thus detergency becomes a function of the sum of sapon., I no. and titer. This sum divided by the titer can be considered as its degree of detergency. A good washing soap will have 10 for this value. (*Chem. Abs.*)

The properties of detergent solutions. VII. Some two-component systems of fat acids in organic liquids. J. Powney and C. C. Addison. *Trans. Faraday Soc.* 34, 625-7 (1938).—Pure stearic, palmitic, myristic, lauric, oleic, linoleic, ricinoleic and caprylic acids and benzene, xylene, aniline (redistd.) and petr. ether (b. 80-100°) were used in these expts. The various mixts. were heated until a clear homogeneous liquid was obtained. They were then allowed to solidify, and the clearing temp. was measured on gradual re-heating. The satd. fatty acids having chain lengths of less than 13 C atoms form eutectic mixts. with benzene, while ricinoleic and linoleic acids give partial miscibility systems with benzene. While minor differences exist between the curves for the various solvents, the general form of the curves was the same in all cases. **VIII. The Interfacial Activity of Long-Chain Fat Acids and Their Xylene Solutions.** *Ibid.* 628-34. The interfacial tension of water and aq. soap solns. against various long-chain fat acids (oleic, ricinoleic, linoleic, caprylic, caproic, lauric, myristic, palmitic and stearic) and their xylene solns. were studied, particularly in relation to the effect of chain length and degree of unsatn. on the interfacial activity. With xylene as the oil phase it was possible to obtain a complete range of mixts. from 0 to 100% of fat acid in the unsatd. acids; the range was limited with the satd. acids, however, by the soly. of these acids. It was shown that when both the oil and aq. phases contain an interface-active species, the nature of the resulting adsorbed film and the lowering of interfacial tension depend upon the degree of unsatn., pH gradient at the interface and relative concn. of the 2 species. (*Chem. Abs.*)

PATENTS

Water soluble sulfonated phosphatide. Chemische Fabrik Stockhausen & Cie. Ger. 660,736 Cl. 12o Gr. 23/01. The phosphatides are treated with at least 70% of their wt. of concd. H₂SO₄ in a solvent at temps. below 10° until they become water soluble.

Wax acid soap and process of making same. C. Ellis. U. S. 2,128,083. The process for making a transparent, petroleum derived water-soluble soap gel which comprises oxidizing spent alkaline solns. of H₂S of petroleum origin, concentrating the oxidized spent alkali, incorporating a sufficient proportion of wax acids to react with uncombined alkali, and heating to complete the saponification and induce transparency.

Manufacture of soap and glycerine. Robert A. Duncan of Wyoming, Ohio (to Procter & Gamble Co.). U. S. 2,126,099. 1. In combination with the step of producing molten anhydrous soap by distillation of water and glycerin from a highly heated soap, the step of cooling the soap from an anhydrous molten condition at a high temperature to an anhydrous condition at a lower temperature, which comprises continuously mixing a flowing current of liquid water and discharging the soap and water mixture into an atmosphere having a pressure sufficiently below the original pressure of the said mixture to cause volatilization of the water with absorption of heat from said mixture, the amount of added water being adjusted with relation to the total heat of the mixture and the reduced atmospheric pressure into which it is to be discharged so that the heat absorbed from the mixture by volatilization of the water at said reduced pressure will cool the soap and leave substantially no water unvolatilized. (*Soap Gazette and Perf.*)

Alkaline phosphates in soap. Mollering. *Seifensieder-Ztg.* 65, 198-9, 217-8 (1938).—Among the first patentees was Bernard, in French Pat. 374,351, who added 10-25 per cent soluble pyrophosphate, not only to ordinary soaps but to toilet soaps also, with about 5 per cent glycerine in the latter to neutralize alkaline action on the skin. The stabilizing effect of phosphates, e. g., in oxygen or perborate soaps and powders, was early recognized, as in Ger. Pat. 279,306, U. S. Pat. 1,435,332 and Eng. Pat. 288,654, the latter relating to hypochlorite washing powders. The numerous patents of Benckiser are noted, such as Eng. Pats. 265,417 and 289,156, and Ger. Pat. 571,738, and others; also those of Agtbe, Krebits and Henkel. The last-named firm has many patents in its name, especially those concerned with oxygen soaps, with or without phosphatic additions. On methods of phosphate production is one which has just been granted in this country as open to public inspection, although the complete specification has not yet been published, namely (under application number) 22,208/1937, for methods for producing alkaline phosphates, taken out in the name of Persil-Ges. Henkel & Voith. The water-softening effect of phosphate additions have been illustrated in the patents of Hall Laboratories and others. Other patents noted are those of Lever Bros., Ltd., Romford Chemical Works, and Procter & Gamble Co., in which anti-oxidant and stabilizing properties are, inter alia, claimed. (*Oil & Colour Trades J.*)