chard was found not to interfere with the expression of the oil if the moist dehulled fruit are properly dried without delay after hulling. It was found difficult to obtain efficient oil expression from tung meals containing filter cake. The expression of tung oil from a meal of ground old tung kernels and shell was found almost impossible. The difficulty was avoided by mixing with new kernels. (*Chem. Abs. 39,* 2890).

THE NEWER VARNISH OILS. J. C. Konen. *Official Digest, Federation of Paint and Varnish Production Clubs, 246,* 240-6 (1945). A review of the properties of pentaerythritol and sorbitol esters illustrated by experimental data.

PATENTS

TREATMENT OF DRYING OILS. H. G. Berger, G. S. Crandall and J. F. Sacolofsky (Socony-Vacuum Oil Co.). *U. S. 2,380,394.* Liquid coatings are prepared by a procedure, the steps of which comprise heating an oil with a Friedel-Crafts type of catalyst at 300° F. or less to a body of 6, arresting polymerization by addition of an inactivator such as quinoline, and adding resin, thinner, and drier.

HIGH IODINE VALUE OILS. L. O. Baxter (National Oil Products). *U. S. 2,380,412* and *2,380,413.* By selective saponification of 30 to 90% of a fish oil by means of alkali and subsequent separation of the unsaponified fraction from the resulting soap, an increase in iodine value of 5 to 50 is achieved.

IMPROVING THE QUALITY OF DRYING OILS. I. G. Farbenind-A. G. *Ger. 742,519.* Polymerized or oxidized drying oil is afterward treated with mono and/or diisocyanates. (*Chem. Abs. 39,* 2661).

Abstracts

Soaps

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CRACKING OF TOILET SOAPS. *Soap, Perfumery & Cosmetics 18,* 366-7 (1945). Cracking of soaps has its origin in the innate tendency of individual crystallizable soaps of the constituent glycerides present in oils and fats of the fatty-charge. The soaps made out of the oil-stock predominantly rich in the non-crystallizable glycerides, i.e., the liquid glycerides of unsaturated character, do not crack at all. Soaps made out of oil-stock composed of the crystallizable and the non-crystallizable glycerides present in a properly balanced proportion show very little cracking. Finally, soaps made out of oilstock rich in crystallizable constituents exhibit a very strong tendency to crack.

The cracking of good quality soaps is due to the particular mechanical treatment of toilet soap manufacture, which results in uniform but unnatural distribution of the solvent phase of the soaps of the liquid glycerides and consequent lack of suitable enveloping media to aid the natural process of crystallization of the crystallizable soaps. This defect can be minimized by an intimate milling-in of a little white potash soap, by adding binding materials and superfatting agents like lanolin to the soap during the milling process or by balancing the components of the oilstock in such a way as to allow enough percentage of the liquid soaps necessary to check the cracking.

SOAP CRACKING: ANOTHER INDIAN VIEW. *Soap, Perfumery & Cosmetics 18,* 449-50 (1945). Cracking is observed either on the surface of stamped soap cake or within the body of the soap only in the horizontal direction. The position of this cracking depends on the treatment to which the soap has been subjected during milling and plodding. Issue is taken with the theory that enveloping crystallizing soaps with non-crystallizing will prevent cracking while cold will induce crystallization. This theory fails to recognize the non-cracking nature of the cold process unmilled soaps where the crystallizable soaps envelop the non-crystallizable soaps, and the semi-boiled and settled unmilled soaps where quick cooling devices are in use. Such soaps have not been found to crack even when the moisture content is very low.

METALLIC SOAPS. Milton A. Lesser. *Soap 21,* No. 7, 36-39 (1945). Metallic soaps are insoluble in water and display properties which differentiate them from the ordinary water-soluble alkaline soaps. They may be prepared by causing the metallic salt to react with a water-soluble, sodium soap of the desired fatty acid or with the fatty acid or metal dissolved in alcohol. Fusion methods may be used instead of these precipitation methods.

The stearates are the most important compounds of this class, with aluminum stearate as the leading soap, being used in grease and lubricant manufacture, paint formulations and waterproofing processes. Calcium soaps have similar uses; zinc stearate is used in rubber compounding and cosmetic powder formulations; copper soaps are used as rot-proofing agents; and lead soaps are valuable in formulating special greases.

Because of increasing complexity of these compounds, the following classification of properties is suggested. Ability of the soap to dissolve in organic solvent and supply metal cations; ability to influence the characteristics of liquids in which it is dispersed; and the physical character of the soap.

MODERN DETERGENTS. *Soap, Perfumery & Cosmetics 18,* 307-8, 298 (1945). This symposium surveys the factors which are of importance in surface active agents and saltwater soaps. These factors include pH, soil removal, lowering of interfacial tension and emulsification of dirt. The literature on comparison of foam properties is reviewed.

TRENDS IN TOILET SOAP PERFUMING. E. G. Thomssen. *Soap 21,* No. 7, 33-35 (1945). The effect of the war on toilet soap perfuming is reviewed. Various synthetics have been replacing the natural oils. For example, artificial geraniums have replaced rose geranium, terpinyl acetate and linalyl acetate have been used for lavender while various combinations of available natural oils and synthetics have been used. The future of synthetics is predicted.

SOAP—THE PREMIER EMULSIFYING AGENT. Georgia Leffingwell. *Am. Perfumer & Essential Oil Rev. 47,* No. 7, 50-52 (1945). Soaps are said to be the best

emulsifiers for oil-in-water emulsions. The soaps most frequently used are the sodium or potassium salts of lauric, oleic, palmitic and stearic acids and their mixtures. They are easily hydrated, foam in water, lower surface tension and increase detergency. Soaps will take up considerable amounts of water depending on the molecular weight of the fatty acid radical. Soaps may also be used in conjunction with other emulsifiers such as borax or glyceryl monostearate.

THE HEMOLYTIC ACTION OF ALKALI SOAPS AND THEIR ADSORPTION BY CHARCOAL. Raymond Cavier. *Compt. rend. 216,* 255-6 (1943). The relation between the hemolytic activity of alkali soaps and their adsorption by animal charcoal was investigated. Fifty ml. of soap soln. buffered to pH 9.0 was shaken at 20° with 0.25 g. of purified charcoal. Isotherms of adsorption were established for Na dibromoricinoleate, dibromostearate, linolenate, linoleate, oleate, hydrocarpate, bromolaurate, ricinoleate, laurate and hydroxystearolate. A parallelism was established between the hemolytic activity and the intensity of the adsorption. (*Chem. Abs. 39,* 713).

PATENTS

PROTEINACEOUS SURFACE ACTIVE AGENTS AND PROCESS OF MAKING SAME. Leonard Spialter and John B. Rust (Montclair Research Corp.). *U. S. 2,373,602-3.* Preparation of proteinaceous surface active agents from naturally occurring protein materials, such as gelatin or blood albumin by mixing, for example, partially hydrolyzed blood albumin with alkaryl sulfonyl chloride.

REFINING OF ANIMAL AND VEGETABLE OILS. Benjamin Clayton (Refining, Unincorp.). *U. S. 2,374,924.* Refining of fats and oils by neutralizing free fatty acids in the oil, in the presence of an oil solvent to form a mixture containing oil, then vaporizing volatile substances and separating soapstock from oil.

SOAP ANTIOXIDANT. Elmer W. Cook (American Cyanamid Co.). *U. S. 2,375,626.* Soap stabilization against discoloration and rancidity by use of an antioxidant, such as biguanide salt of a *p*-tertiary amyl phenyl phosphoric acid.

POLYETHERS AND COMPOUNDS SUITABLE FOR THEIR PREPARATION. I. G. Farbenindustrie A.-G. *Belgian 445,808.* Compds. of the formula Z-Y-C_6H_4R (in which R is a radical contg. more than 3 C atoms, Y is an intermediate group forming a bridge, and Z is OH or —NR'R") are made to react with alkylene oxides used in sufficient quantity to obtain introduction of several polyalkylene glycolic radicals into the mol. of the starting material. The products are suitable as detergents, wetting agents, etc. (*Chem. Abs. 39,* 1308.)

WATER-IN-OIL EMULSIONS. Th. Goldschmidt A.-G. *Belgian 446,054.* The emulsifier consists of di- or polyacylpolyamides, formed by condensation of polyalkylenepolyamines with unsatd. higher fat acids. The product is suitable as wetting and washing agent. (*Chem. Abs. 39,* 827.)