eous trimethylamine and measuring the conductivity of the resulting soln.

METHOD OF FINISHING SHORTENING. T. M. Godfrey (to Lever Bros. Co.). *U. S. 2,174,364.* App. for simultaneous agitation and chilling of shortening is described.

BLENDING EDIBLE FATS. A. Gudheim (to Lever Bros. Co.). *U. S. 2,174,365.* —.5 to 5% of hard fat having a titer not less than 65° C. is added to other shortening fats to impart plastic characteristics over a wide range.

HYDROGENATION PROCESS. R. J. Byrkit (to Hercules Powder Co.). *U. S. 2,174,651.* An app. for continuous hydrogenation of rosin under pressure is decribed.

PROCESS OF CONCENTRATING ORES BY FROTH FLOTATION. A. W. Ralston and W. O. Pool (to Armour & Co.). *U. S. 2,175,093.* Fat nitriles are used in the process.

ABSTRACTS

Soaps

Edited by M. L. SHEELY

PRESENCE OF TWO MICCELLE SPECIES IN AQUEOUS SOAP SOLUTIONS. J. Stauff, *Naturwissenschaften 27,* 213-14 (1939). X-ray diagrams of Na palmitate soln. at 70° showed even at concns. of 0.25 N interference rings of smaller diam. than that of the solid Na palmitate ring. Below this concn. no rings were found; above it the intensity increased with concn. On cryst. soap-water mixts. at 20° interferences were found at concs. of 0.025 N. The rings are caused by colloidal particles, and 2 kinds of these are present, one of which gives no x-ray reflections. When detg. the period required in solns. of difference in concentration for formation of the first visible crystals (curve) at 3 or 6° undercooling a distinct change in direction of the time-concn. curve appears between 0.1 and 0.25 N which is attributed to a change in particle size. Small as well as large micelles are present; they are different, however, from the 2 forms of McBains. (*Chem. Abs.*)

THE COMPOSITION OF FAT ACIDS OBTAINED FROM OXIDATION PRODUCTS OF SYNTHETIC PARAFFIN. Friedrich Rannkamp Z. *physiol. Chem. 259,* 236-44 (1939). The synthetic fat contained all the fat acids from C_8 to C_{22} with about equal quantities of odd and even nos. of C atoms. It m. 27-9°, has I no. 4.2, acid no. O. sapon. no. 231. and unsaponifiable 0.3%. The Me esters were fractionated and some of the acids isolated pure from the fractions. (*Chem. Abs.*)

ZINC WHITE FOR FAT SPLITTING. A. Foulon. *Seifensieder-Ztg. 66,* 568-9 (1939). Zinc white mixed with 20-40% of zinc dust makes an excellent fat-splitting agent and catalyst in the oil and fat industry. One reason for this is that zinc white can be obtained in a high degree of chemical purity, giving correspondingly pure and light-colored fatty acids. Zn white has a very fine particle size which increases its surface activity. The Zn soaps formed are easily decomposed. Although Zn white is higher in price than oxides which might be used, smaller amounts are necessary. (*Chem. Abs.*)

MELTING POINTS OF THE TRIGLYCERIDES OF THE HIGHER ACIDS. W. Gruntzig. *Z. anorg. allgem. Chem. 240,* 313-21 (1939). Photomicrographs are shown of polymorphic forms of tristearin, trilaurin, tripalmitin, tripentadecalin, tritridecalin, and triheptadecalin. The m.p's of the triglycerides of the series C_{12} to C_{18} are tabulated and graphed. Each of the glycerides C_{13}, C_{15}, C_{17} has 4 polymorphic forms. The relations between the m.p's of the various forms are discussed. (*Chem. Abs.*).

THE PRODUCTS OF ESTERIFICATION OF FAT ACIDS CONTAINING ONE DOUBLE BOND AND THEIR DRYING. A. A. Blagonravova & A. Ya. Drinberg. *J. Applied Chem. (U.S.S.R.) 11,* 1642-7 (1938). Pentaerythritol and d-mannitol esters of oleic acid prepd. by heating the acid with an excess of alc. at 200-20° for 6-10 hrs. had the drying properties of the vegetable oil. Esters of erucic, stearic and ricinoleic acids were also prepd. by the same method. An increase in the chain of the fat acid lowered the drying ability and the physicochem. properties of the films of the esters obtained. (*Chem. Abs.*)

PHYSICAL AND TECHNICAL PROPERTIES OF SOAP FROM COTTONSEED OIL. I. E. Feigin and G. S. Pomerants. *Khlopchatobumazhnaya Prom. 7,* [5], 28-9 (1937). Cold sapon. of 2 parts cottonseed oil with one part 28% NaOH (d. 1.320) gave a neutral, solid soap of ivory-like appearance. The product, however, was difficultly sol. in cold and hot water. A readily sol. soap contg. 65.3% fat acids was obtained by incomplete sapon. This was done by treating 475 g. cottonseed oil and 12 g. cottonseed oil fat acids with 220 g. NaOH of d. 270 (80% of the theoretical amt.). No oil sepd. from the dil. soln. of the soap in 10 days. The unsapond. portion could not be sepd. by the usual known methods. The soap could also be used as an emulsion in turpentine. (*Chem. Abs.*)

PATENTS

DETERGENT COMPOSITION IN CAKE FORM. William Beckers. *U. S. 2,169,829.* A detergent composition in cake form adapted for toilet purposes which is mildly acid in reaction and possesses good lathering and cleansing properties comprising boric acid and a water soluble synthetic detergent consisting of a combination of sodium sulfate and the sodium salt of the acid sulfuric acid ester of technical lauryl alcohol, the sodium sulfate constituting up to about 60% by weight of said combination, the boric acid acting as a binding agent in the composition, said composition being composed of about 50 to about 80% of boric acid based on the dry weight of the composition and about 50 to about 20% of said water-soluble synthetic detergent.

STABLE EMULSION. Howards and Sons Ltd. and Leonard C. West. *Brit. 501,521.* Stable emulsions of higher fatty acids and glycerides of the oleic and ricinoleic series, higher paraffin hydrocarbons such as paraffin wax and mineral oils, hydrogenated phenol and cresols, and animal and vegetable waxes are made with the aid of cyclohexylamine soap, e.g. with fatty acids of the stearic, oleic, ricinoleic or linoleic series or with cycloaliphatic fatty acids or naphthenic acids.

ABSTRACTS

Soaps

Edited by M. L. SHEELY

PREPARATIONS CONTAINING SOAPS OF SYNTHETIC FATTY ACIDS. Standard Oil Development Co. and I. G. Farbenindustrie A.-G. *Brit. 509,730.* These companies have found that preparations, in particular washing, cleansing and emulsifying agents, which contain synthetic fatty acid soaps (i.e., soaps of fatty acids obtained by oxidation of high molecular non-aromatic hydrocarbons) and if desired the usual inorganic additions improving the washing action, can have imparted to them a good stability of the foam by incorporating therewith or with their solutions one or more compounds of the following types: pyrophosphates, secondary orthophosphates, metaphosphates, hexametaphosphates, and sesquicarbonates, of the alkali metals or of ammonia and borax. The said salts or mixtures thereof are added to the preparations or their solutions in amounts of from 1 to 50 percent, or more reference to the soap content.

The favorable effect of this new preparation may be seen, for example, from the following: Of a preparation consisting of a soap of synthetic fatty acids and 25% of the weight of soap, of carbonate about 3 gms. per litre of washing liquid are required to produce a stable foam; on the other hand, of a preparation in which 20% of carbonate and 5% of sodium pyrophosphate are contained instead of 25% of carbonate, only 1.1 gms. per litre of washing liquid are required to produce foam of the same quality and stability.

BITUMINOUS DISPERSIONS. Colas Kaltasphalt B.m.b.H. *Ger. 674,899.* Addn. of 653,929. Highly viscous aq. dispersions of bituminous materials are obtained by adding water-sol. polyhydric alcs. such as glycerol or glycol to the bitumen. Other substances, sol. in, or swellable in water, may also be added. In an example, mineral oil distillate bitumen is intimately mixed with 0.3-0.5% of crude glycerol, 1% of K oleate and 0.05% of KOH, and dispersed in water.

CLEANSING COMPOSITIONS. Winifrid Hentrich and Eberhard Elbel. *Ger. 676,659.* The compn. consists of a mixt. of soap from hard fats or fatty acids and water-sol. salts of compds. of the general formula RarOR'COOH, in which R denotes an aliphatic or cycloaliphatic residue contg. at least 4 C atoms, ar denotes an aromatic residue and R' denotes an org. residue. Other washing, cleansing or bleaching agents may be added. Thus flakes of hardened whale oil, Na soap, wool fat and cresoxyacetic acid substituted the nucleus by sec. alkyl residues of six to twelve C atoms are mixed and a small amount of perfume oil added. The resulting compn. has high cleansing powers.

IMPROVING THE ADHERENCE OF BITUMEN OR OILS TO MINERAL AGGREGATES. Standard Oil Development Co. *Fr. 837,257.* A mineral aggregate is coated with a salt of multivalent metal and the coated aggregate is then mixed with oil or fluid bitumen contg. a small quantity of a reagent which reacts with the multivalent metal salt. The reagent may be fatty acid such as stearic acid, or oleic or ricinoleic acid, or a naphthenic acid, and the metal salt used may be $Pb(NO_3)_2$. A metal soap is formed on the surface of sepn. between the bitumen or oil and the mineral aggregate. The method is suitable for use in the surfacing of roads.

PRODUCTS OBTAINED BY THE VACUUM DISTILLATION OF FISH OIL. James Baxter to Distillation Products. *U. S. 2,169,192.* As a new composition of matter obtainable by vacuum distillation of a fish oil and being composed of saturated hydrocarbons having a probable formula of or between $C_{15}H_{32}$ and $C_{19}H_{40}$ and boiling without decomposition at between 265 and 310° C. at 760 mm. and at between 125 and 177° at 12 mm., having a melting point of between -18° and -22° C. and being resistant to boiling with aqueous potassium permanganate.

GERMICIDAL SOAP. Deutsche Hydrierwerke Akt. Ges. *Brit. 499,402.* Pharmaceutical, bactericidal, fungicidal and like agents for solution in water comprise soaps of fatty acids, having at least 6 and not more than 12 C atoms in the fatty acid residue, together with phenols or their homologues or substituted derivatives, menthol, or ethereal oils containing hydroxyl groups. Soaps of caprylic, undecylenic, caproic and capric acids are suitable; as the other constituents p-chlor-m-cresol, chloroxylenol, chlorothymol and chlorocarvacrol are mentioned. Soaps of fatty acids having more than 12 C atoms may be added e.g., soaps or ricinoleic and oleic acids, in making compositions having less of the lower fatty acids than would otherwise be required. The use of the low molecular soaps is stated to have a favourable effect on the activity of the other ingredients in aqueous dispersion. The Specification as open to inspection under Sect. 91 includes the use of soaps of the kind described in making preparations containing camphor or organic bases such as nicotine, pyridine and quinoline, and refers in an example to the use of monopalmitoyl glycerine ester of sodium isothionate as a primary solubilizing agent. This subject matter does not appear in the specification as accepted.

LAUNDRY WASHING PROCESS. Max Hushinsky. *U. S. 2,161,167.* A process of washing fabrics such as white cloth involves breaking or removing stains, consisting of coloring matter, such as lipstick, by dissolving the materials of which the coloring matter is composed in a series of relatively concd. solns. of a break powder comprising soaps, soda and a phosphate, at a temp. of about 88-93°, the material being subjected to the solns. approx. 6 times during periods of approx. 15 min. each; and then rinsing the material approx. 7 times for periods of about 2 min. each, the water being drawn off after each rinse, the temps. of the 1st and 2nd rinses being about 71-76°, the 3rd rinse 66-71°, the 4th rinse 60-66°, the 5th rinse 54-60°, the 6th rinse 43° and the 7th rinse with water at a temp. of about 21-32°. Such treatment serves to remove various stains.