

Wheeler Corp. *Brit.* 510,852. The oil is passed successively through 2 vacuum zones.

PROCESS FOR BLEACHING OILS, FATS AND WAXES. E. Scheller (Deutsche Gold und Silber Scheideanstalt). *U.S.* 2,221,559. The fat, oil or wax is emulsified, bleached with an oxidizing agent in acid emulsion, neutralized to pH of 8.5 and then bleached with H₂O₂.

MANUFACTURE OF STABILIZED ANIMAL AND VEGETABLE FATS AND OILS. E. Böhm and T. Sabalitschka. *U.S.* 2,223,244. In the stabilization of animal and vegetable fats and oils subject to deterioration by oxidation, the process comprises adding small amts. of HO—C₆H₄—CO—O—(CH₂)₃—N(C₂H₅)₂ or similar compds.

STABILIZING OF FATS. T. Sabalitschka and E. Bohm. *Belg.* 435,981. Alc. esters of tannic acid are used as antioxidants.

PROCESS OF TREATING LIQUIDS. I. M. Colbeth (Baker Castor Oil Co.). *U.S.* 2,183,486. The process of purifying an oil contg. fatty acids, comprises passing an aq. alk. soln. downwardly through a confined space at a rate slower than drops of the oil will rise through it, introducing the oil into the lower portion of said space and dividing it into droplets without agitating it or causing it to form a stable emulsion while dissolving the resulting soap in the liquid phase of said soln. and removing it.

PROCESS OF BREAKING EMULSIONS. I. M. Colbeth (Baker Castor Oil Co.). *U.S.* 2,183,487. Castor oil that has been bleached by oxidation at a temp. of about 320°F and oxidized at 285°F and then treated with Na bisulfite is used as a de-emulsifier.

SALAD DRESSING. W. F. Straub (W. F. Straub & Co.). *U.S.* 2,221,957. In a salad dressing, the combination includes honey and vegetable oil, the honey being in sufficient quantity relative to the oil to eliminate the corny and mealy taste of the oil but insufficient to mask the presence of the oil.

SHORTENING. H. Schou. *U.S.* 2,220,976. The shortening comprises fat, not more than 80%, some sugar and small amts. of dispersing and stabilizing agent for manuf. of thermo-stable water-in-oil dispersions.

DRYING OIL. O. Jordan and E. Rossmann (General Aniline & Film Corp.). *U.S.* 2,220,906. Drying oils comprising a semicarbazone of oiticica oil is admixed with other drying oils.

GLYCOL ESTERS. C. Ellis (Ellis-Foster Co.). *U.S.* 2,221,674. Diethylene glycol ethyl esters of coconut oil fat acids are claimed as new compds. They are used as softening agents for nitrocellulose coatings.

LUBRICATING OIL. S. Musher (Musher Foundation, Inc.). *U.S.* 2,216,711. Lecithin and a polyhydroxy benzene is added to lubricating oils and the mixt. is heated to 350°F. so that final oil will have less corrosive action and less tendency to form sludge.

CONDENSATION PRODUCT AND METHOD OF PREPARING SAME. E. A. Mauersberger (Alframine Corp.). *U.S.* 2,186,464. The reaction product of aliphatic aldehydes and compds. of formula R.CO.(NH.C_xH_{2x})_n.NH.C_yH_{2y}.OH in which R represents any alkyl or hydroxy-substituted alkyl chain of a fatty acid, contg. at least 7 C atoms, x and y each represent a number from 2 to 5 inc. and n represents a number from 0 to 3 inc. are reacted. The products are waxy or resin-like.

Abstracts

Soaps

Edited by M. L. SHEELY

GENUINE CASTILE SOAP VERSUS IMITATIONS. THE BLANDNESS OF GENUINE BRANDS AS DETERMINED BY PATCH TESTS AND RABBIT-EYE TESTS. Frederic Damrau. *Med. Record* 152, 187 (1940). The majority of so-called "castile" soaps are made wholly or in part from cheaper oils or fats other than olive oil. To show their inferior, harsh and irritation qualities, 6 brands of "castile" soaps were compared with 2 U.S.P. soaps, namely, laco castile soap (Sapo duris, I) and green soap (II). In 4 successive series of human skin patch tests I and II were the only brands that caused no erythema. All 6 of the other brands produced definite erythema in at least 1 expt. With the more delicate rabbit-eye test, none of the brands caused erythema in dilns. of 1:375 I and 2 other "castile" brands caused no irritation; 4 brands produced definite erythema (degrees 1½, 1½, 1, ½); II caused no reaction. With dilns. 1:250 or 1:175 all brands caused reaction. I was highly satisfactory as a non-irritating cleanser in a small series of cases where the skin was affected by chapping, chafing, roughness, dryness, excessive oiliness, pruritus or poison ivy. In cases of sunburn, windburn and eczema its use was free from irritating effects. (*Chem. Abs.*)

USE OF GLYCEROL IN SHIPPING TOMATO PLANTS. John Hartman and Edward Stair. *Proc. Am. Soc. Hort. Sci.* 37, 916 (1940). The addn. of glycerol (0.1%) to the water used to wet the packing material had no effect

on yield or stem lesions caused by *Macrosporium solani* but delayed maturity somewhat. (*Chem. Abs.*)

DETERMINATION OF SOME PHYSICAL AND CHEMICAL CONSTANTS OF CERTAIN DETERGENTS. B. Holiday, E. Kelly and L. Rising. *J. Am. Pharm. Assoc.* 29, 367 (1940). With a view to aiding in building up a more comprehensive knowledge of the chem. and phys. factors in the act of removing soil and to develop a clear-cut and practical comparison between the detergents now available commercially, the following properties were detd. on 10 soaps; volatile, water, nonvolatile, alc.-sol., water-sol., water-insol., pH, surface tension, ability to form suds, ability to remove soil, and total alky. There appears to be correlation between total volatile and water; none was apparent between alc.-sol. and water sol., between ability to form copious and lasting suds and ability to remove soil, nor between total alky. and pH value. (*Chem. Abs.*)

SOLUBILIZING AND DETERGENT ACTION IN NONIONIZING SOLVENTS. J. McBain, R. Merrill, Jr., J. Vinograd. *J. Am. Chem. Soc.* 62, 2880 (1940). This note adduces a series of upwards of 200 qual. observations which serve the purpose of demonstrating that solubilizing occurs in nonaq. solvents. Many solubilizers or detergents that operate in water are likewise effective in other solvents, provided that they are themselves sol. therein. Many are not sol. and very few, even if sol.,

do not exhibit solubilizing action in certain non-aq. solvents. Solubilizers include substances that are not aq. detergents such as rubber in benzene. A good solubilizer should be effective in concns. of 1% or less.

A NEW METHOD FOR DETERMINING CAUSTIC ALKALI IN SOAPS CONTAINING CARBONATES. Cl. Bauschinger. *Fette u. Seifen* 46, 671 (1939). Dissolve a 1-g. soap sample in a mixture of 20 cc. alc. and 10 cc. cyclohexane. (For soaps contg. more than 50% water use 30 cc. alc. and 15 cc. cyclohexane.) Warm to promote soln., cool to 25°, add 5 cc. of Ba naphthenate (I) soln., shake for several sec. and titrate with 0.1 N alc. HCl soln., with phenolphthalein indicator. The method gives low results when used with soap products contg. large proportions of fillers which form ppts. with I. To prep. I, convert com. naphthenic acids to the K salt, ext. thoroughly with petrol ether, liberate the naphthenic acids with HCl and distill in vacuo. Neutralize with aq. KOH and ppt. with an excess of BaCl₂ soln. Wash the (I) ppt. free of Cl ion by kneading with hot water and dry with care in vacuo. The (I) soln. used above is prepd. by dissolving (I) in 5 parts of cyclohexane and then, immediately before use, adding an equal vol. of alc. to the resultant clear jelly. (*Chem. Abs.*)

SODIUM SILICATE IN SOAPS. *Soap, Perfumery and Cosmetics* 13, 701 (1940). An undesirable effect of using sodium silicate in soaps is the separation of silicic acid, which occurs when rinsing is not sufficiently thorough. To prevent this, the silicate should be made more alkaline by adding caustic soda lye—7 to 8 parts NaOH (38° Be) for every 100 parts of waterglass (38° Be), the liquoring mixture being usually added to the hot paste soap in the crutcher.

Waterglass has the capacity to prevent discoloration from iron-containing water. It also absorbs dirt by virtue of its colloidal silicic acid.

When waterglass is used in soap, it is advantageous to ensure rapid solidification of the soap in order to prevent separation of the filling solution. It is also advantageous to replace caustic soda partially with caustic potash lye when a high percentage of tallow or hardened fat is used since the pan charge thus becomes less sensitive to the filler.

When waterglass is used in toilet soaps, the fats should be superfatted with approximately 1-2% of wool fat, petroleum jelly, etc.

MILLING OF TOILET SOAPS AND FLAKES. *Perfumery and Essential Oil Record* 31, 324 (1940). There has recently been a return to frame cooling in place of rapid cooling by flowing over internally chilled rollers. The supposed prevention of rancidity by sudden chilling in an air blast, whereby the free alkali is converted to carbonate, has been found to increase rather than decrease the tendency to sourness.

The highest content of water at which milling is possible without difficulties is 14-15%. Less than 10% is not advisable. Each passage through a modern 3-roll machine involves an average loss of 0.3% water. The milled ribbons should be passed to the plodder immediately to avoid chilling and drying.

The modern milling machine is of the metal roller type, the rolls hollow for water cooling. It is a powerful high-speed machine, having 3-10 rollers of metal varying from chilled iron to steel, with pressure oil lubrication for all bearings. The best system for efficient milling for toilet soap is to use a mixer and have 2 x 4

or 3 x 3-roll machines, arranged to feed automatically into one another. This procedure may be replaced by a single machine of the 5, 6 or 10-roll type, most of them serving the double purpose of providing either for the flakes or the further processing for the tablets. A special feature of one make is that the rollers have chamfered edges so that the milling takes place only on the surface cooled by the water circulation.

SOAPS DECLARED NOT GERMICIDAL. *Oil, Paint and Drug Reporter* 138, No. 24, 5 (1940). Following is a summary of the address of Dr. E. G. Klarmann of Lehn & Fink before the National Association of Insecticide and Disinfectant Manufacturers, December 2nd.

"The F.D.A. technic employing besides *Eb. typhosa* and *Staph. aureus* three other test organisms, viz., *Shig. paradysenteriae*, *Streptococcus* and *Trichophyten rosaceum* has been applied to a study of (a) the series of potassium soaps of homologous fatty acids, (b) a group of commercially available washing and toilet soaps, and (c) a number of 'technical' soaps obtained by the saponification of fatty vegetable oils. For practical reasons, all tests were carried out at 37° C. Of the homologous series only salts of fatty acids with eight to ten carbon atoms evidenced a germicidal efficacy of some note. Fatty acids of this description do not occur in fats and oils used in soap making. As expected, therefore, the antibacterial properties displayed by the commercial soap products tested, were not such as to entitle this kind of soap to any one of the following designations: 'disinfectant,' 'antiseptic,' or 'germicidal.'

"Attention was called to the comparatively unusual efficacy of rosin soap with respect to *Staphylococci* and hemolytic *Streptococci*, and to the possibility of formulation with the aid of rosin of soaps with enhanced antibacterial properties, which is, however, subject to further study.

PATENTS

IMPROVEMENTS IN DETERGENTS—ADDITION OF SILICATES. Joseph Crosfield and Sons, Ltd. *Brit.* 521,910. A process for the manufacture of detergents which comprises reacting a soap-forming fatty acid with a finely divided solid alkali metal silicate having a low apparent specific gravity not exceeding 1, in the substantial absence of water and at temperatures below those producing decomposition or volatilization of the fatty acid, the proportions of the silicate and the fatty acid being such as to produce a product containing at least 5% of soap and a substantial proportion of alkali metal silicate.

SOAP. Yosio Kin, Norio Takei and Toyoiti Iwasaki. *Japan* 128,294. Soap is compounded with a substance having buffering action such as Na₂HPO₄ and NaH₂PO₄ to keep aq. soln. neutral.

TOILET SOAP. Societe des savons francais. *Fr.* 844,500. A toilet soap having good wetting, foaming and detergent qualities is obtained by saponing, a mixture of oleic, and myristic acids, and incorporating into the mixt. a protective colloid of acid or neutral character such as solubilized casein. The addn. to the soap of weak acids or of acid salts does not cause the decompn. of the soap. The solubilized casein can be prepd. according to *Fr.* 820,781. Example is given of a soap obtained by saponing, a mixture of 50 parts oleic acid and 50 myristic acid with an equiv. quantity of NaOH and adding 0.5-1% solubilized casein.