ABSTRACTS

Oils and Fats

Edited by
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PATENTS

Refining food fat. G. J. Westerink. Ger. 626,154, Cl. 53h, Gr. 1.01. Fats such as tallow and lard are refined by washing with soln. contg. salt and casein at 60-70°.

Separation of solid fat acids from liquid fat acids in mixtures. C. Stiepel. Ger. 625,577, Cl. 23d, Gr. 1. The fat acid mixtures are dissolved in alc. converted to Ca-soaps by boiling with Ca(OH)$_2$. After cooling the Ca-soaps of the solid acids ppt. and may be separated by filtering.

Manufacture of a solvent from glycerol. E. L. Holmes. U. S. 2,036,940. A manufacture of a solvent which consists in subjecting glycerol to the action of a dehydrogenating catalyst contg. Cu and heated to 240-260° and condensing to a liquid the vapors thus produced. The product principally contains acetol and is of value as a solvent for cellulose derivs.

Reduction product of hydrocarbon or alcohol character from fats. Deutsche Hydrierwerke A.-G. Ger. 629,244, Cl. 12o Gr. 1/01. Fats are hydrogenated at temps. above 250° but not over 350° in presence of Ni-catalyst and with pressures of 60 atms. of H$_2$, to produce fatty alcohols. The product is distd. giving a hydrocarbon and alcohol fraction; the residue may be used in soap making.

Clarifying fat acids. M. M. Nikiforov. Russ. 40,485, Dec. 31, 1934. Acid produced by splitting fats with Kontakt are washed with NaCl soln., and treated with steam and then with air at 80°. (*C. A.* **30**, 4030.)

Improving blown oils. J. Scheiber. Ger. 625,902. Cl. 12o Gr. 26/01. Blown oils are improved by heating the oil with unsatd. fat acid to 250-300°, followed by esterifying the remaining free fat acids with polyhydroxy alc.

Fats. Deutsche Hydrierwerke A.-G. Ger. 622,697, Dec. 4, 1935 (Cl. 23*a*. 3). Fats are refined by treatment with steam or inert gas at temps. above the m. p. of the fat till the sapon. is complete and the odor removed. Superheated steam may be used. NaOH may also be added. The process may be carried out *in vacuo*. (*C. A.* **30**, 3674.)

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Detergent Value of Soap. Th. Ruemele *Allgem. Oel- u. Fett-Ztg.* **33**, 17-18 (1936). A brief review of the criteria used for evaluating soap. (*C. A.* **30**, 2786.)

Detergency of Soap Solutions. B. G. S. Acharya and T. S. Wheeler. *Proc. Indian Acad. Sci.* **2A**, 637-45 (1935). A method is described for measuring the adsorption of soap by cotton under standard conditions. The data on adsorption, pH and drop numbers of various soap solutions show that increased adsorption is associated with increased cleansing action. (*C. A.* **30**, 2786.)

The Chemistry of Wetting Agents. Josef Hetzer *Fett-chem. Umschau* **43**, 38-42 (1936). A scheme for classifying wetting agents according to their chemical structure is developed and applied to wetting agents of German manufacture. (*C. A.* **30**, 3540.)

Cleaners for Dairies Discussed. H. J. Barnum, P. S. Lucas and B. Harsuch. *Michigan Station Special Bul.* **262** (1935), p. 24. A study of cleaners in dairies was undertaken to determine the properties and efficiency for specific purposes. Cleaners studied were divided into the following classes: modified or neutral sodas, soda ash, special alkalies, trisodium phosphate, and colloidal. Aside from the trisodium phosphate, the cleaners were similar in composition.

While all of the cleaners were sufficiently soluble as ordinarily used, soda ash was the most soluble, followed by modified sodas, special alkalies, trisodium phosphate, and colloidal. Some of the cleaners were highly buffered and resistant to reduction in cleansing ability. In most cases tap water retarded this action more than distilled water. The modified sodas were most stable in buffer action, followed by soda ash and colloidal, special alkalies, and trisodium phosphate. In causticity the special alkalies were highest, trisodium phosphate 2nd, soda ash and colloidal about equal, and modified sodas lowest. For removing butterfat from a utensil by emulsification the special alkalies were most efficient, but could not be used for hand-washing because of their action. Soda ash and colloidal were 2nd in efficiency in this respect, followed by modified sodas and trisodium phosphate. Soda ash was the most efficient water softener, followed in order by colloidal, modified sodas, special alkalies, and trisodium phosphate.

Cleaners containing abrasives are commonly called "detergents." Aluminum and copper were very severely scratched by the volcanic ash content of such cleaners, while tinned copper and tinned steel were severely scratched, nickel moderately scratched, and Ascoloy and chrome nickel steel were unaffected. Special alkalies were very severe in their corrosive action on metals, trisodium phosphate was 2nd in severity, soda ash 3rd, and colloidal and modified sodas were

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least destructive. Tinned steel was most subject to corrosion, aluminum 2nd, followed by tinned copper and copper. Nickel was but slightly affected by corrosion, and Ascoloy and chrome nickel steel appeared to be entirely resistant. While many of the cleaners had distinct disadvantages for use on metals, these objections may not hold for glassware washing. (*Chemical Industries* **38**, 512.)

The Laboratory Evaluation of Wetting-Out Agents. Thomas Kennedy. *Dyer* **74**, 389-90 (1935). The following methods are suggested and described: determination of Herbig's number; time required for bits of cloth 1 square centimeter to sink in solution containing the wetting agent; lowering of surface tension measured by capillary rise; stability to hard water; and determination of fatty component. (*C. A.* **30**, 2664.)

The Composition of Soap and Its Action Upon Textiles. A. Loettermoser. *Angew. Chem.* **49**, 104-6 (1936). A discussion of the effects of addition of water glass to soap. (*C. A.* **30**, 2766.)

New British Standard Specification for Vegetable Oils. H. M. Langton. *Food* **5**, 245-6 (1936). Recently adopted specifications for crude maize oil, crude palm-kernel oil, crude soybean oil, refined cottonseed oil and sesame oil are given and discussed. (*C. A.* **30**, 2782.)

Production of Glycerol from Sugar. F. M. Hesse. *Rev. cubana azucar v alcohol* **1**, 282-3 (1935). Maximum yields of glycerol and aldehyde are obtained from fermentation of sugar solutions in the presence of the maximum quantity of Na_2SO_3 which the yeast can tolerate. With 33 g. Na_2SO_3 per 100 g. of sugar, 11.90 g. aldehyde and 22.37 g. of glycerol were obtained; with 100 g. Na_2SO_3, the yields were 18.96 and 36.99%, respectively. The maximum rate of fermentation to aldehyde of an 8.55% sugar solution in the presence of 4.27% $NaHCO_3$ was reached in 2.5 hours, which was 40-70 times greater than the usual fermentation rate. The aldehyde produced was changed to alcohol and AcOH. Equal parts of glycerol and AcOH were formed. (*C. A.* **30**, 2790.)

PATENTS

Bisulfite Derivative of Ketonic or Aldehydic Perfume, Used in Soap, Yields Aroma with Water. U. S. 2,035,494, March 31, 1936. Walter Christian Meuley. Granted to E. I. du Pont de Nemours and Company, Inc., Wilmington, Delaware. By incorporating a small amount of the bisulfite derivative of an aldehyde or ketone perfume in a substantially dry alkaline medium such as soap, a very much smaller quantity of perfume is sufficient than was heretofore required, it is stated in this patent.

To test out whether this idea would work, two parts of finely powdered benzaldehyde bisulfiate compounds were added to 1000 parts of soap powders. The substances were thoroughly mixed. The soap powder remained substantially unperfumed.

A small amount (about 1 gram) of the mixture was added to a little water in a beaker. On touching the water, the pleasant odor of bitter almonds became at once noticeable, and masked effectively the unpleasant odor of the soap powder solution, which was quite pronounced in a similar experiment where the benzaldehyde bisulfite compound had been left out. Either cold or hot water gave the same result. The soap powder and benzaldehyde bisulfite was kept for six months to test the stability of the combination; when brought into contact with water, the almond odor was noted to be in undiminished strength.

Among the pefumes of which a bisulfite combination may be prepared are benzaldehyde, citronella, citral and heptylic aldehyde. (*Drug Trade News* **11**, [12] 35, June 8, 1936.)

Corrugated Soap Tablets. British Patent Specification No. 445,815 (applicant: Claude I. Meyer, 97, Avenue de Versailles, Paris) relates to soap tablets and the like of the kind provided with projections or corrugations to enable the wet soap to be held more easily.

According to the present invention a soap tablet or the like is provided which is characterized in that it is provided with peripheral flutings or grooves parallel with, or practically parallel with, two opposite faces of the tablet or the like constituting its rubbing surfaces, which flutings or grooves extend in a continuous path right round the soap tablet.

These flutings serve the purpose of increasing the adherence of the fingers of the hand gripping the soap and to lessen fatigue due to the clenching of the hand. In addition they allow of a more efficient use of a resilient soap protecting sheath of known type of elastic or other appropriate material for protecting the soap. (*The Perfumery and Essential Oil Record* **27**, [5] 230, 1936.)

Rubber Coated Cake of Soap. U. S. 2,042,104, May 26, 1936. John P. Kane, New York, New York. 9 Claims.

The process of manufacturing a rubber coated cake of soap, which comprises coating a cake of soap with an aqueous rubber solution containing a vulcanizing agent and ultra-rapid accelerator, and drying and vulcanizing said coated cake of soap at relatively low temperatures whereby a non-sticking, readily stripable coating impermeable to water and permeable to scents is obtained.

Soap of Definite Water Content. U. S. 2,037,006, April 14, 1936. Benjamin Clayton (to Refining, Inc.). In a continuous process, materials such as fat and NaOH solution are brought into contact to produce soap and glycerol, and the resulting mixture of soap and glycerol is passed into an evaporating chamber whence water and glycerol vapor are removed at a rate sufficient to maintain a sufficient vacuum to vaporize

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substantially all the water and glycerol in the mixture and soap is continuously withdrawn from the chamber in such manner as not to impair the vacuum maintained in it. Apparatus is described. (*C. A.* **30**, 3675.)

Soap-Forming Condensation Products. U. S. 2,033,092. Herman A. Bruson to Rhom & Haas Company, both of Philadelphia. Production soap-forming condensation products of formaldehyde and an amine. (*Chemical Industries* **38**, [4] 380.)

Continuous Process of Soap Manufacture. In most of the methods so far proposed for the continuous manufacture of soap, the final product obtained has been a soap powder, formed by the efflux of the soap at a high pressure into a partially evacuated chamber. Reference was made in these Notes in September last to British and United States patents for the purpose, the former, J. B. E. Johnson, and the latter by Clayton, Kerrick and Stadt. Two new U. S. patents (Numbers 2,019,775/6) have recently been granted to Clayton and Burns for a process and apparatus for the continuous manufacture of soap, in which the soap emerges as a continuous bar rather than as a powder. Suitable cooling plant is introduced after the saponification tube, in the apparatus already described by Kerrick, so that the saponified mass is partly solidified, and so comes out as a solid bar. Provision is made in the plant for the addition of fillers, runnings, etc., which in the specification are included under the general term "modifiers." (*Perfumery and Essential Oil Record* **27** [4], 187.)

Saponified Products. U. S. 2,037,004, April 14, 1936. Ralph E. Burns (to Refining, Inc.). A proportioned mixture of a saponifiable material such as fat or oil and an aqueous solution of a saponifying reagent such as NaOH is caused to flow through a reaction zone at a suitable reaction temperature and a modifier such as a filler, coloring or perfume is introduced into a turbulent flowing stream of the resulting reaction product in suspension, and the uniform mixture is passed to a cooling zone for solidification of the soap formed containing the modifier. Apparatus is described. (*C. A.* **30**, 3675.)

Insecticide Oil Composition for Trees. U. S. 2,034,152, William C. Parrish, Portland, Oregon. Insecticide oil composition for trees and foliage composed of mineral oil, mineral oil-fatty acid compounds, organic acid-alkali soap, esters of fatty acids, glycerine, and soluble starch in aqueous solution with alkali. (*Chemical Industries* **38** [4], 406.)

Use of Oleic Acid Soaps in Cleaner for Metal Surfaces. U. S. 2,032,174. Carl Johnson, East Orange, New Jersey, to Oakite Products, Inc., a corporation of New York. Cleaner for metal surfaces consisting mainly of kerosene with an oleic acid soap, cresylic acid, and water. (*Chemical Industries* **38** [4], 405.)

Stearic Acid Resin. Canadian 355,594, January 28, 1936. Theodore F. Bradley (to American Cyanamid Company). Stearic acid resins are formed by reaction of a polyhydric alcohol with a polybasic acid and stearic acid in the presence of an additional fat acid other than stearic or palmitic acids, such mixtures overcoming the formation of solvent-retaining esters. E. g., a mixture of glycerol 100, phthalic anhydride 160, stearic acid 45, and distilled fat acids of coconut oil 45 parts, is heated in an Al or a glass-lined container in an atmosphere of CO_2 or N. The final product has a straw color, an acid number of 22 and a softening point of 59-69°, and is miscible with toluene and with butyl acetate. (*C. A.* **30**, 2667.)

Glycerine Used in Leather Product. U. S. 2,032,250. Bert H. Bower, Gloversville, New York. Production leather product treated with a lubricant, an emulsifying agent, glycerine and honey. (*Chemical Industries* **38** [4], 378.)

Continuous Soap-Crutching Apparatus. U. S. 2,024,425, December 17, 1935. Robert V. Bart (to Procter and Gamble Company).—Structural, mechanical and operative details. (*C. A.* **30**, 1252.)