# ABSTRACTS

## Soaps

**Edited by M. L. SHEELY**

**Modern medicated and antiseptic soaps.** *The Perfumery & Essential Oil Record,* Special Number, August, 1932.—Opinions differ in regard to the cause of the antiseptic value of soap. Some of the theories advanced name the free alkali and the alkali formed by hydrolysis acting with a salt of a fatty acid. Of the alkali salts of fatty acids the palmitate has the strongest bactericidal action followed by the stearate and myristinate.

Various medicaments have been added to soap with a view to enhancing its antiseptic value. Their therapeutic effect has been much disputed. It is said that the momentary application is insufficient to destroy germs. Tonzig declares that disinfectants are useless as they lose their specific action on incorporation in soap. Unna stated that carbolic soaps without exception are unreliable and useless. Soaps have the power of softening the epidermic cells, thus opening them more to treatment and it is for that reason that medicated soaps are used. The coconut oil content of the medicated soap should be as low as possible on account of its irritability to many skins. Superfatted soaps are largely employed.

The remarkable antiseptic and healing properties of essential oils and their constituents have been demonstrated. The addition of perfumed material to soap adds considerably to its germicidal powers.

The hydrogenated phenols, cyclohexanols and methylcyclohexanols impart a wonderfully increased cleansing value to soap, and, hence, the medicinal and antiseptic properties.

Chemical combinations of formaldehyde, metallic peroxide, iodized fatty acids, sulphurized fatty acids, aromatic derivatives of mercury, bismuth preparations and lactate of silver are patented germicides which are added to soap.

**Dry cleaning soaps.** *Chemical Markets,* September, 1932.—Diglycol oleate, recently introduced as a dry cleaning soap, is claimed to contain no water. It dissolves clearly in any dry cleaning solvents and builds up less of a pressure in the filter. Its cleaning properties are superior and since only ½ to 1 pint is required for 50 gallons, an economy in cost is achieved.

### PATENTS

**Dry cleaning soaps.** *The Perfumery & Essential Oil Record,* August, 1932.—The subject of dry-cleaning soaps has been under investigation during the last two years in the laboratory of the National Federation of Dyers and Cleaners, and the results are communicated by R. V. Brown in the July issue of the Journal of the Society of Dyers and Colorists.

He concludes that when using white spirit as solvent, the best proportion of soap is about 0.25 per cent., any excess beyond this having a tendency to diminish the cleansing effect, and the best soap is one made from potash with 5-10 per cent of free oleic acid, this being superior to an ammonia soap. The maximum cleaning effect is produced in 20-30 minutes and at a temperature of 25-30° C. Triethanolamine soaps are not considered at present to be a practical proposition, and addition of cyclohoxonol is unnecessary and uneconomical. The goods to be cleaned should not, when working with white spirit, be completely dried before cleaning, or if dried, should be allowed to regain their natural moisture.

Variations in the solvent have also been tried, those compared being light petroleum spirit, white spirit, solvent naphtha, carbon tetrachloride, and trichlorethylene. It is concluded that the lower boiling fractions of petroleum have a more rapid cleaning action than the higher ones, and that solvent naphtha and the chlorinated hydrocarbons are even more rapid in their effect, although if the treatment is continued for 20-30 minutes, the difference between the action of the various solvents almost disappears.

**Dry cleaning.** *Chemical Abstracts,* September 20, 1932.—The Twitchell Process Company, French 724,081, September 11, 1931.—Cloth, etc., is "dry" cleaned by an organic solvent in which is dispersed an aqueous soap, water or sulfonated mineral oils and water. The water-soluble stains are thereby removed in addition to those soluble in the organic solvent.

**Soap as moth-proofer.** *Soap Gazette and Perfumer,* September, 1932.—Means for cleansing and moth-proofing wool, feathers, hair, etc., comprise a soap for water-washing, with which is incorporated a moth-proofing agent which is non-volatile or becomes non-volatile on the material. The moth-proofing agent may be quarternary phosphonium base of the type described in Specification 312,163 (Class 140, Water-proof, etc., fabrics); a soluble salt of selenic or selenious acid, or in the case of a soap which is stable to acids, free selenic or selenious acid; hydrofluoric acid or hydrofluosilicic acid or their soluble salts; or mixtures of these agents. The soap may be used in domestic washing or during the process of manufacture of the wool, etc. In examples: (1) Triphenyl-dichlorobenzylphosphonium chloride is added to soap. The soap may be produced in solution or in powder form. Other compounds of the kind described in Specification 312,163, or mixtures thereof, may be used. (2) Selenic acid is added to an acid soap in aqueous solution, and the whole intimately mixed. (3) Soap powder is mixed with sodium selenite. (4) An acid soap is intimately mixed in powder or solution with potassium hydrofluoride or sodium silicofluoride or a mixture of both. In each example, 90 parts of soap to 10 parts of the moth-proofing are used. In application, the moth-proofing soap is dissolved in water, and wool, etc., is washed in the usual way at 40 to 50° C. and then rinsed. Other moth-proofing agents which may be used are dichlorosalicylic acid, and 1:3-dichlorobenzene-4-sulpho-1:3-phenylenediamine. British patent No. 366,090.

**Continuous process of soap manufacture.** *Perfumery and Essential Oil Record,* August 25, 1932.—There are many difficulties in the way of a continuous process of soap manufacture. It would be difficult to introduce into any continuous method such a purification process as is now insured by the removal of spent lyes by salting out. There would be difficulty in insuring an accurate balance between the caustic alkali and fat so that there would be no excess of free alkali and no unsaponified fat in the soap. Other complications are the high viscosity of concentrated soap solutions and the desirability of recovering glycerine.

On the other hand, the length of time required by the ordinary method of soap-boiling, as at present carried out, and the labor and cost thereby involved, render the introduction of a continuous process an attractive proposition, and patents claiming such a process have already been described in this Journal, notably those of Henkel & Cie (P. & E. O. R., 1929, 388) and of J. B. E. Johnson (P. & E. O. R., 1932, 125), whilst we recently heard also of experiments on the subject being carried out in the laboratories of one of the English universities. Particulars have just been published of yet another patent with a similar object by K. Loffl (Eng. Pat. 376,287). In this, claim is made for a process in which the saponifiable matter and the saponifying agent are boiled together in a closed vessel under "super-atmospheric" pressure, and with strong agitation, and the soap subsequently dried and cooled by spraying it into a current of drying gas. Whilst in many respects following the same principles as the patent of J. B. E. Johnson already referred to above, provision is in this case made for separation of spent-lyes and recovery of glycerin in the usual manner.

In the patent immediately following, also by K. Loffl, No. 376,288, an improved method of spray-drying is described, in which the drying is effected in at least two stages, part of the moisture laden gas of the first stage being removed, without allowing the particles (e. g. soap) in suspension to be deposited until they have been completely dried by contact, in a second or third stage, with a separate gas stream.

**Process and apparatus for manufacturing soap.** U. S. 1,874,388. Pierce M. Travis, Ridgewood, N. J., assignor to Travis Process Corporation, August 30, 1932. The process of manufacturing filled cake soap which comprises subjecting a mass of syrupy consistency containing the soap stock, saponifying alkali and filler to an intense disrupting and dispersing action whereby a completely saponified mass containing the materials in a fine state of division and uniform dispersion is obtained, then spraying said mass while the materials are substantially in said state, drying to a suitable degree, and then compacting the droplets constituting the spray to form cakes whereby a homogeneously and finely filled cake soap is obtained.

**Use of potato in soap manufacture.** *Chemical Abstracts,* September 10, 1932. D. De NAGY. British 356,847, June 27, 1930. Potatoes are boiled with dil. $H_2SO_4$, the boiled mass is passed through a press and the resulting pulp is agitated with weak alkali, allowed to stand, surplus liquid is decanted and the residual mash is boiled with KOH solution and used with palm oil or other soap-making material and additional alkali for soap manufacture (a small proportion of tetraethylammonium hydroxide also being added), and ammoniacal casein is also added after saponification is complete.