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SOAP

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7 Claims. (Cl. 87—5)

My invention refers to the art of soap making and more especially to a new kind of soap, which may be either soft or curd soap, it being an object of my invention to provide a soap which possesses hitherto unknown properties which render it particularly useful for the treatment of the human skin and for other purposes.

In the soap according to the present invention is incorporated the substance of natural silk, either the raw silk or the fibroin freed from the silk gum (sericin) having previously been decomposed, preferably by alkaline means.

It has been found that soap containing one or all of the constituents of natural silk, either as such or in decomposed form, is not only particularly adapted for cleaning and disinfecting the skin, but also lends itself more particularly for the treatment of the scalp rendering the hair supple and glossy and preventing the formation of scales. It has further been found to be a very efficient detergent, quite especially for natural and artificial silk fabrics.

In producing soap according to this invention, raw silk, either in the form of cocoons or of silk culture and reel wastes or other wastes produced in the spinning or weaving of silk, is treated with an alkaline or acid medium; that is with a non-neutral decomposing agent, and preferably with caustic alkali, to decompose it and to free the fibroin from the silk gum. This product is then incorporated in a finished soap mass of some suitable type, to which may be added other substances, such as are usually contained in soap, the mixture being converted either in the cold or at an elevated temperature, preferably by boiling, into soft or curd soap, which may also have the form of a powder or flakes.

In practicing my invention, I may for instance proceed as follows:—

Example 1

125 parts by weight raw silk wastes, which may previously have been freed from the gum, are stirred intimately during 10–15 minutes with 600 parts caustic soda solution of 38–40° Bé. This mass is now poured into 2000 parts freshly prepared boiling soap mass under vigorous stirring. To the mixture thus prepared may be added 120 parts of a fatty acid, for instance cocinic acid, whereupon the soap is finished as usual. The hot fatty acid may also be introduced into the soap mass simultaneously with the alkaline silk solution.

Example 2

4 kgs. silk waste are treated for decomposition with 6 kgs. caustic soda of 38–40° Bé. and the solution is neutralized with 4–6 kgs. fatty acid, for instance oleic acid. This mass is then introduced into 100 kgs. finished soap mass and treated as described with reference to Example 1.

Instead of adding to this soap silk substances decomposed by means of an alkaline agent, as above described, it is also possible to treat either the raw silk or the fibroin freed from the gum with liquefied ammonia, preferably at a low temperature, whereupon the mass may be freed from ammonia in a well known manner by evaporation and the water-soluble mass remaining over, which consists of raw silk or fibroin, may be added to a finished soap mass.

I may as well dissolve the silk or fibroin in liquefied sulfur dioxide to decompose the silk and add the decomposed silk substance recovered by evaporation of the sulfur dioxide to a finished soap mass.

Various changes may be made in the details disclosed in the foregoing specification without departing from the invention or sacrificing the advantages thereof.

I claim:—

1. The process which comprises decomposing raw silk with an alkali and mixing the product with soap.

2. In the manufacture of detergents, the process which comprises removing the wax from raw silk, decomposing the wax-free silk with an alkali and mixing the product with soap.

3. The process which comprises degumming and decomposing raw silk waste with excess of an aqueous solution of caustic alkali at ordinary temperatures, mixing the resulting product with a mass of boiling soap under agitating conditions, adding a sufficient quantity of a higher fatty acid to substantially neutralize the mixture and recovering the resulting product.

4. A detergent comprising a mixture of soap with the alkaline decomposition products of degummed raw silk.

5. A detergent comprising a mixture of soap with an alkaline decomposition product of fibroin.

6. The process which comprises decomposing raw silk with an alkaline decomposing agent, adding a higher fatty acid to substantially neutralize the reaction products, and mixing and heating the product with soap.

7. The process which comprises decomposing raw silk with liquefied sulfur dioxide, evaporating the sulfur dioxide, and mixing the decomposed silk product with soap.

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