

UNITED STATES PATENT OFFICE.

ADOLF KAYSER, OF BUFFALO, NEW YORK, ASSIGNOR TO THE ELECTRIC SMELTING AND ALUMINUM COMPANY, OF LOCKPORT, NEW YORK.

DETERGENT.

No. 924,792.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed September 26, 1905. Serial No. 280,227.

To all whom it may concern:

Be it known that I, ADOLF KAYSER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Soap or Detergent Compounds, of which the following is a specification.

My invention relates to the manufacture of soaps and consists in the incorporation into the composition of such soaps, of a new substance, or soluble salt.

The object of my invention is the incorporation into the composition of fatty soaps, of a substance which will add alkalinity to such soaps without requiring the use of more of the vegetable or animal fatty acids and thus by means of the use of the new substance increase the effectiveness of such soaps, although the percentage of oils and fats actually used in their manufacture is greatly lessened and reduced, because of the addition of such substance.

I accomplish the object of my invention by using in the manufacture of soap a chemical compound composed of cheap mineral acids so united and combined with alkali that the salt resulting from the union retains all the detergent qualities of the alkali, leaving them ready for action and unimpaired by the union, while at the same time the caustic or corrosive action of the alkali is wholly eliminated. Hence, for this reason soaps manufactured in accordance with my invention and discovery are as grateful to the skin and all animal tissues as neutral fatty soaps and they are wholly beneficial to fabrics of vegetable tissue, which is not the case with alkaline fatty soaps now used in laundries and manufactured without the use of my new substance as a material in their composition. This is fully proven by submitting various colored fabrics to the action of soaps having in their composition my new substance, and manufactured in accordance with my invention and discovery, when it will be readily seen that the colors in the fabrics are, in each instance, rendered more bright and clear, instead of being deadened and faded by the soap, as they would be by the action of fatty soaps, equally strong in alkali, if the soaps did not have in their composition, this new substance as a material used in their manufacture.

I am aware that it is now common to incorporate fullers' earth in soapstocks for the

purpose of cheaply adding weight to the soap, and I am also aware that a so-called mineral soap has been manufactured by incorporating into the soapstock, a portion of silica or liquid glass, and that it is known that some of these substances possess detergent qualities and are capable of detergent action, but, even were they both so mechanically incorporated into the same soapstock such use and mixture would not accomplish the results which I accomplish by the use of the sodium silico aluminate which is my new substance and such use either together or singly would not result in the production of sodium silico aluminate the soluble salt which I propose to incorporate into the composition of fatty soaps. The new material, therefore, for use in the manufacture of fatty soaps is a substance invented, discovered, manufactured and brought forth by me and is a sodium silico aluminate, which is a substance or alkaline salt composed of mineral acids and alkali (a detailed description of ingredients and mode of manufacture will be found in the United States patent covering this new substance application for which was filed September 26th, 1905, as Serial No. 280,228). In the manufacture of fatty soaps I have successfully used this detergent for the twofold purpose of furnishing a cleansing element and for taking the place of a portion of the oils and fats commonly used and I have used this detergent together with vegetable oil, also with animal fats and in varying proportions, according to the variety of soap which I desired to produce, and in every instance the result has been that I have manufactured a soap more efficient, better and at a less cost than I could produce a like soap of equal quality, by any other known process, or without the use of the detergent compound as one of the materials used in its manufacture. This new substance should be incorporated into the soap when the soap is in the melted or liquid state, and it may be incorporated in varying proportions, according to the percentage of alkalinity it is desired to obtain in the soap, as the activity of the fatty soap will be increased just in proportion to the percentage of sodium silico aluminate used.

I have accomplished the object of my invention in various ways, one of which may be stated as follows: That is to say, when in the manufacture of soap the fat and alkali

have been boiled together and salted out, and settled in the usual manner, one thousand pounds of this soap curd, while still hot, may be transferred to the soap crutcher, and while being agitated therein, two hundred and fifty pounds of the new detergent mentioned in my application Number 280,228 may be emptied into the crutcher, and the whole mass thoroughly mixed, and this, the new detergent thoroughly incorporated into the hot mass. This composition may then be transferred into the frame, and when cool, it will be ready for use, and may be cut up, packed and stored away in the usual manner. The composition thus produced, I have found very desirable for use in steam laundries, while for household purposes, a composition having a smaller percentage of the new detergent, is more desirable.

What I claim, therefore, and desire to secure by Letters Patent of the United States, is:

1. In detergents the composition of matter consisting of a soap having intermixed therewith, one molecular weight of alumina two to eight molecular weights of silica, and

four to six molecular weights of alkali metal oxid, substantially as and for the purpose set forth.

2. In detergents a composition of matter in a hydrated condition consisting of a soap having intermixed therewith one molecular weight of alumina two to eight molecular weights of silica and four to six molecular weights of alkali metal oxid substantially as and for the purpose set forth.

3. In detergents a composition of matter in a hydrated condition consisting of a soap having intermixed therewith one molecular weight of alumina, two to eight molecular weights of silica and four to six molecular weights of sodium oxid (Na_2O) substantially as and for the purpose set forth.

4. The new composition of matter consisting of a soap having intermixed therewith a compound formed from the chemical union in the molecular proportions of Al_2 , Si_3 , Na_8 , and O_{13} .

ADOLF KAYSER.

Witnesses:

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