

UNITED STATES PATENT OFFICE

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DETERGENT

No Drawing.

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My invention relates broadly to detergent bodies available for cleansing and polishing metal surfaces, and the principal object of my invention is to provide a detergent material particularly available for the cleansing and polishing of the gold mountings, rubber and porcelain work of false teeth and/or removable bridge-work. Gold mountings of this type are susceptible to discoloration from various causes; character of the food, mouth acids, and smoking.

Investigation has revealed that the materials commonly employed for the purpose of cleansing such gold mountings have been various types of soap, the ordinary dentifrices found on the market and, for deep discoloration, powdered pumice stone has been suggested.

Ordinary dentifrices found upon the market are ineffective and have little or no cleansing properties when employed for the purpose above described. This is largely due to the inability to work up a sufficient lather in the use of the same to hold abrasive or scrubbing ingredients on the work, and through lack of detergent agents contained within the same. Of the various dentifrices, the tooth powders are purely scrubbing powders, while the pastes are mainly scrubbing powders developed in paste form by the addition of liquid carriers, and have no cleansing value as dirt solvents.

While the usual soaps have detergent qualities and produce lather in sufficient amount, they lack abrasive qualities, with the exception of sand-soap. And this material, of course, is open to the same objection noted as to the use of pumice stone. Any detergent material suitable for the purpose proposed must possess sufficient lathering quality to hold up on the work being cleaned; must have a proper abrasive effect, and must be of such nature that none of the ingredients or any combination of the same will have a harmful effect upon dental work.

After a number of experiments I have prepared a composition in paste form composed of ingredients that cannot injure any of the component parts of artificial dental work, whether gold, silver, rubber or porcelain, and which cleans and polishes. A few moments with an ordinary tooth brush—not longer than the time required for ordinary brushing of the teeth—will keep the false teeth and plates clean and bright, doing away with the discoloration and stain which is familiar to all wearers of such work, especially those who smoke.

The principle of this discovery is the combining of detergent agents or elements possessing sufficient lathering quality to hold up on the work being cleaned with a relatively smooth abrasive; the whole presenting a proper abrasive or scrubbing material in which all of the ingredients are harmless to any part of dental work.

My improved detergent comprises a mixture of various ingredients and may include a good vegetable oil, a soap with a slight excess of fat, calcium carbonate in the form of precipitated chalk, kieselguhr or diatomaceous earth, together with glycerine, with or without the addition of a suitable perfume or flavoring.

This material may be made up for commercial use in the form of a solid body like a small cake of toilet soap, or in the form of a paste. In the cake form, the employment of a soap made with sodium hydroxide is best suited for the purpose. In the paste form, the soap is preferably one made with potassium hydroxide. The carrier for the abradant components, calcium carbonate and/or kieselguhr, is glycerine which may not only be worked into a smooth paste with the chalk and kieselguhr or equivalent components, but also has a tendency to preserve the consistency of the resulting mixture.

One formula for the production of a detergent body within the scope of my inven-

tion, and which I have successfully used, is as follows:

	Per cent
Soap -----	23.
Cocoanut oil -----	1.
Oil of wintergreen -----	0.5
Calcium carb. (precipitated chalk) ---	25.
Kieselguhr -----	8.
Glycerine -----	42.5

	100.0

The amount of kieselguhr and calcium carbonate (precipitated chalk) may be varied, but the relative proportions should not be less than one to three. Should a greater amount of kieselguhr be employed, an excessive amount of glycerine will be required, which lessens the efficiency of the material as a detergent or cleansing agent. The glycerine content will vary with the amount of moisture in the soap employed, and the consistency desired in the final paste product, when developed in paste form.

In preparing my improved detergent material I preferably proceed as follows: The soap, which in the case of a sodium soap may be in the form of chips, is ground to powder, and then the cocoanut oil is mixed with the same. In the case of potassium soap, which I may also employ, which material is soft and is readily incorporated with the cocoanut oil by mixing or grinding without preliminary treatment. In some instances it may be desirable to add a slight amount of moisture in the form of water; preferably a soft water of usual character. I then mix the calcium carbonate (precipitated chalk) and the kieselguhr together with the necessary amount of glycerine. After these several bodies of ingredients have been separately incorporated, preferably, with or without the aid of heat, they are mixed together and stirred or ground until the mass is completely homogeneous and is then ready to be run into containers.

In some instances I may employ the cocoanut oil with the chalk mixture, and then add the soap. It has been found somewhat easier to work in the soap by this method of procedure. If a proper super-fatted soap is employed in the manufacture of this detergent paste, it is possible to omit the cocoanut oil; replacing the same with water.

I do not wish to be limited to the proportions given, as these may be varied considerably, and coloring matter, perfume or flavoring extracts added, without destroying the principle involved. The formula given, one of a number of experimental mixtures of pastes, has given highly satisfactory results in use. If the material is prepared in solid form, the glycerine content would be very greatly reduced. The percentage of kieselguhr may not be greatly increased in the paste

form, as it has such great absorbent qualities that a considerable increase in the amount of glycerine will be required to produce the proper consistency; resulting in the mixture being too highly diluted with glycerine and tending to affect its efficiency for the purpose desired. This, of course, does not apply to the cake form, where the glycerine content is relatively small. The object of using glycerine is to obtain the proper consistency, and its amount may be varied greatly, but should not be present in excess of about 50% in the paste form of my improved material, and only to a sufficient extent in the cake form to make its consistency such that rubbing a wet brush over such cake a few times will cause it to pick up a sufficient quantity of the detergent material for cleansing and polishing purposes.

I claim:

1. A detergent composition comprising a homogeneous mixture consisting approximately of soap, 20% to 25%; cocoanut oil, 1%; calcium carbonate (precipitated chalk), 25%; kieselguhr, 8%, and glycerine 40% to 45%, together with a small proportion of a flavoring ingredient.

2. A detergent composition in paste form comprising a homogeneous mixture consisting approximately of soap, 20% to 25%; cocoanut oil, 1%; oil of wintergreen, 0.5%; calcium carbonate (precipitated chalk), 25%; kieselguhr, 8%, and glycerine 40% to 45%.

In witness whereof I have signed this specification.

C. R. HINCHMAN.