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SOAP.

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To all whom it may concern:

Be it known that I, ARTHUR O. ZINK, a citizen of the United States, residing at Rahway, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Soap, of which the following is a specification.

This invention relates to a toilet article, more particularly to an article composed of soap prepared for individual use in a sanitary and economical form, and also to a saponaceous composition for use in the article.

Soap has heretofore been prepared in various forms for individual use, but all the forms at present known to me are open to numerous objections. Small individual cakes are in use in hotels and other public places, but these are wasteful, as in the majority of cases the cakes are used but once or twice. This soap is sometimes reworked but at considerable expense. Moreover small pieces of soap when wet and slippery are hard to retain in the hands of the user, and owing to their small area require an excessive amount of time and rubbing to produce sufficient lather. In addition, all soap cakes require a tray, which tray and its support generally become coated with dissolved soap, necessitating frequent cleaning to maintain them in a sanitary condition. Liquid soaps and soap powders or shavings dispensed from containers are also in use, but are likewise objectionable on sanitary grounds, as the excess or drippings falling on washstands, etc., require frequent cleaning. In addition, the dispensers used for this purpose are objectionable, owing to their general tendency to become clogged at the outlet, liquid dispensers in particular requiring attention at frequent intervals. Furthermore, liquid dispensers are ordinarily arranged to give such a small quantity of soap at a single operation that they must be actuated several times to produce a sufficient quantity of soap, and it is difficult to keep the soap from dripping from the hand of the user in the meantime, thereby causing waste. Individual pellets of hard soap have also been proposed, but if these are made solid they cannot be crushed in the hand and are exceedingly inconvenient to use and require time to work up a lather from them. On the other hand, if made in pellet form with a shell of hard soap defining a chamber containing a cleansing fluid, as in patent to Jones, No. 1268126, June 4, 1918, the fragments of the crushed pellet cannot be readily retained in the hand while working up a lather and considerable time, effort and patience are required to cause them to dissolve and form lather. Furthermore, crushing the pellet disclosed in the Jones patent would be likely to squirt the liquid contents on the user and immediate vicinity.

An object of my invention is to provide a soap pellet in a form which will avoid all the above named objections, which will be economical to manufacture, easy to handle, which can be readily spread or smeared on the hands of the user and will quickly produce a plentiful lather. Another object is to provide a pellet which may be made in various shapes so as to be equally capable of being dispensed by different well known types of slot machines or of being used direct from its shipping package. Still another object is to provide a pellet of plastic soap which will not dry out and harden before use. In short, the invention aims to provide soap in a form suitable for individual use in a practical and sanitary manner in all public places or in the household.

A further object of my invention is to produce a saponaceous composition, which while capable of other uses, such as those requiring a paste soap, is particularly adapted for use in my soap pellet.

Briefly stated the soap pellet comprises a small portion of soap in such a pasty or plastic condition that it will readily spread on the hands of the user, of a sufficient size for a single application or use, and a relatively thin and firm protective coating or casing, made of a readily rupturable material, and preferably though not necessarily soluble in hot or cold water.

Composition.—The pellet may be composed of ordinary soap in a pasty condition, but it has been found that certain properties are desirable in the pellet soap which are not found in the soaps in general use, and a mixture composed of soap, agar-agar, glycerine, a non-saponifiable paraffin oil and water has been found to give satisfaction. A cocoanut oil soap is deemed preferable for use in the pellet. If desired coloring matter, perfume, abrasives such as pumice, or cleansing chemicals such as borax, sodium carbonate, sodium bi-carbonate, or sodium silicate, may be added. Any part or all of

these may be used depending upon the particular conditions in which the pellet is to be used. The agar-agar forms a jelly of a peculiar friable or grainy quality which is free from any toughness or stringiness, and when added to the soap binds it together and imparts to it a certain elasticity or firmness without in any way detracting from its quality of readily crushing and spreading on the hands of the user. It also furnishes bulk in the composition. Gum tragacanth, gelatin or starch may also be used for the latter purpose in lieu of the agar-agar, and any other substance having the bulk giving quality may be substituted therefor. While not absolutely necessary, it is also desirable to use a soap composition have non-drying qualities, and the addition of glycerin in excess of that formed in the manufacture of the soap produces this result. Moreover, the glycerin is desirable in the soap by reason of its well known emollient and soothing action. Glycerin is, however, expensive and other substances acting to prevent or lessen drying may be used, such as glucose, but any sugar or syrup such as the trade compound known as "nulomoline" may be substituted. It may be advisable to use both glycerin and glucose simultaneously and more or less satisfactory results have been obtained with this combination. It is further desirable to increase the smoothness and easy spreading quality of the soap, and the addition of a small quantity of a non-saponifiable paraffin oil produces this result, but it is obvious that any other equivalent oil or substance may be used. For cheapness, water is added to obtain the desired consistency and to add bulk.

I have found the pellet composition to operate satisfactorily when made up in about the following relative proportions: soap, 30 pounds; agar-agar or other binding agent, 2 to 3 pounds; glycerin or other drying resistant, 25 pounds, paraffin oil, 1 pound, and water, 31 pounds. In case another drying resistant such as glucose is used with the glycerin to reduce cost, the two may be used in the proportions of glycerin, 10 pounds, and glucose 15 pounds. Good results may be obtained, however, with considerable variations either way in the quantities of each article used, and it may be desirable to vary them in certain cases. For instance, the soap may be varied as much as 35%, the binder 10%, the drying resistant 50%, the paraffin oil 20%, and the water 50%. The ingredients are mixed and if desired the mixture is aerated to increase bulk. It is then formed into pellets of the desired form in any of the ways common in the art of plastics and the hereinafter described coating applied in any desired manner.

Coating.—The pellet may be coated with any material or combination of materials which when in a relatively thin layer possess sufficient rigidity to enable the pellets to keep their shape and prevent adhesion, and which at the same time assists in preventing drying out and is easily rupturable when crushed between the hands. While not essential it is preferable that this coating be formed of a substance which is soluble in cold or hot water, and one formed of sugar has been found to meet these requirements. However, any other suitable soluble material may be used or even an insoluble one, such as shellac or other elastic material. The coating may be colored or otherwise ornamented, or imprinted with advertising matter, as the fancy of the buyer may dictate.

Having now fully described my invention, what I claim is:

1. A toilet article, comprising a homogeneous pellet of soap in a pasty or plastic condition, enclosed in a relatively thin protective and disintegrable coating capable of preventing drying of the soap.

2. A toilet article, comprising a homogeneous pellet of pasty soap, mixed with a drying resistant, and enclosed in a protective coating composed of a disintegrable material which will aid in preventing drying of the soap.

3. A toilet article, comprising a pellet composed of plastic soap containing gylcerin in excess of that contained in the original fat, said pellet being enclosed in a relatively firm but easily rupturable protective and disintegrable coating.

4. A toilet article, comprising a pellet composed of soap, a non-drying agent, a vegetable gum and water, and an easily rupturable protective and disintegrable coating therefor.

5. A toilet article, comprising a pellet composed of soap, a non-drying agent, a non-saponifiable oil and water, and a thin disintegrable protective coating therefor.

6. A toilet article, comprising a pellet composed of soap, a non-drying agent, a vegetable gum, a non-saponifiable oil and water, and a thin, firm, easily rupturable and soluble protective coating therefor.

In testimony whereof I have herewith signed this specification.

ARTHUR O. ZINK.