

UNITED STATES PATENT OFFICE.

JAMES LEETCH, OF LONDON, ENGLAND.

IMPROVEMENT IN LIQUID SOAPS OR DETERGENT COMPOUNDS.

Specification forming part of Letters Patent No. 127,901, dated June 11, 1872.

To all whom it may concern:

Be it known that I, JAMES LEETCH, of London, England, have invented a new and useful Detergent Compound; and I do hereby declare that the following is a full and exact description of the same.

My said invention relates to a detergent compound or solution, or fluid soap, which is designed to be used as a substitute for ordinary soap, or with the same for cleaning the skin, also for cleaning and scouring textile fabrics and for cleaning the surfaces of wood, metal, and other materials. My improved compound, moreover, may be used with either fresh or salt water.

The said compound or solution consists chiefly of the substance known as soluble glass, which is composed of soda, potash, and sand. The soluble glass is combined with sugar and chalk, as follows: I take one-third of a gallon of the soluble glass and add to the same a gallon of water in which has been dissolved about six ounces of sugar or a proportionate quantity of other saccharine matter. To the above mixture I add two ounces of common chalk. For toilet purposes I add a further quantity of sugar—about one-half pound—and use a little French chalk or steatite with the common chalk.

These materials are thoroughly mixed and refined in suitable vessels, and the compound thus obtained will be then ready for use for the purposes above specified.

In practicing my invention commercially, I take one ton of lump glass, which, when dissolved by suitable means, yields about two tons or three hundred and sixty gallons of soluble or water glass. The latter is diluted with about ten hundred and eighty gallons of water, making a total of fourteen hundred and forty gallons of liquid. To this liquid I add about one hundred and eighty pounds of common powdered chalk, and sometimes about sixty pounds of pulverized French chalk and about seven hundred and twenty pounds of common brown sugar, or an equivalent quantity of other suitable saccharine matter. These

ingredients should be mixed when the liquid is boiling, and should be kept constantly stirred until all the ingredients are thoroughly amalgamated.

The compound should now be allowed to cool down and settle in the vats or other vessels in which the amalgamation has been effected for the space of about twenty-four hours, or longer, as may be necessary; and then it may be drained off into other vats or vessels. The compound will then be of a transparent amber color, and entirely free from all smell. I sometimes add to the compound a small quantity of alum to increase its whitening effect.

When used as a detergent for textile manufactures it is found to be perfectly harmless to the fabric, and may therefore be freely applied to the strongest canvas, the most delicate lace, or to dyed cottons, muslins, and similar articles. It removes all stains, such as blood, oils, wine, beer, and all kinds of dirt without affecting the colors, but when used for scarlet cloth I add to the compound a small quantity of sulphate of tin.

The fluid soap thoroughly cleans paint on walls, wood, or iron, also plain wood, such as floors and stairs, and, as a detergent agent, is invaluable in hospitals, barracks, prisons, and other public institutions.

As hereinbefore stated, it is also equally effective when used for cleaning purposes in seawater, either cold or hot. Therefore it will obviate the necessity of using fresh water for washing in the navy or on board passenger or other ships. It softens and whitens the hands and prevents their being chapped; it also removes infection that may be retained in cloths or other articles or materials. It is perfectly effective without any solid soap and is intended to be used alone as a substitute therefor; but should habit or prejudice induce some people to cling to the old methods of washing, ordinary soaps may be used with the compound.

My improved detergent or fluid soap is cheaper than the solid soaps in general use;

it saves a great amount of labor and hard rubbing. It renders unnecessary all the compounds known as washing-powders, and it gives off no offensive smell or unpleasant or injurious vapor while being used.

Claim.

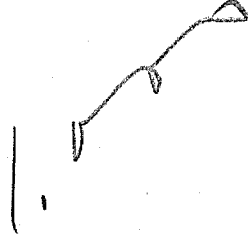
A detergent compound, consisting of soluble

glass, sugar, and chalk, dissolved in water, with or without the other ingredients herein set forth.

JAMES LEETCH.

Witnesses:

WM. ROBT. LAKE,
EDWARD C. JACKSON.

A handwritten signature or scribble, possibly reading 'J. Leetch', is written in the center of the page.