

UNITED STATES PATENT OFFICE.

GEORGE E. VANDERBURGH, OF NEW YORK, N. Y., ASSIGNOR TO LIQUID QUARTZ COMPANY.

IMPROVEMENT IN SILICATED SOAPS.

Specification forming part of Letters Patent No. 31,648, dated March 5, 1861.

To all whom it may concern:

Be it known that I, GEORGE E. VANDERBURGH, of the city, county, and State of New York, have invented a new composition of matter in the shape of an improved article of soap; and I do hereby declare that the following is a full and exact description of the process of producing said soap.

I take any of the known soaps of commerce and first reduce the same to a fluid state, and then I add thereto any desired proportion of a liquid silicate which contains, by weight, a larger proportion of silex than it does of the alkaline base of the same, and then, after thoroughly incorporating the said mixture of soap and liquid silicate while they are kept at a proper temperature, I run the mixture into frames to harden, and afterward cut the same by any of the well-known methods into a merchantable shape.

Of the samples of my improved silicious soap which accompany this application for a patent those numbered from 1 to 8, inclusive, were produced from the ordinary yellow soap of commerce (composed of tallow, soda, and rosin) and various proportions of a liquid silicate of the above-mentioned character which possessed the specific gravity of 1.320 at the temperature of 60° Fahrenheit, the said ingredients having been combined with each other in the following proportions, viz: No. 1 contains one hundred parts of soap to twenty-five parts of liquid silicate; No. 2 contains one hundred parts of soap to fifty parts liquid silicate; No. 3 contains one hundred parts of soap to seventy-five parts liquid silicate; No. 4 contains one hundred parts of soap to one hundred parts liquid silicate; No. 5 contains one hundred parts of soap to one hundred and twenty-five parts liquid silicate; No. 6 contains one hundred parts of soap to one hundred and fifty parts liquid silicate; No. 7 contains one hundred parts of soap to one hundred and seventy-five parts liquid silicate; No. 8 contains one hundred parts of soap to two hundred parts liquid silicate; and the remaining samples of said soap—viz., those numbered from 9 to 12, inclusive—were produced from the same quality of brown soap as that above referred to, and a quality of the above-mentioned liquid silicate which possessed the specific gravity of 1.150 at the temperature of 60° Fahrenheit, the said ingredients having been

combined with each other in the following proportions, viz: No. 9 contains one hundred parts of soap to one hundred parts of liquid silicate; No. 10 contains one hundred parts of soap to eighty parts of liquid silicate; No. 11 contains one hundred parts of soap to fifty parts of liquid silicate; No. 12 contains one hundred parts of soap to twenty-five parts of liquid silicate.

Numerous practical experiments conducted by different persons have fully established the following positions, viz: The ordinary yellow soap, when improved by the combination therewith of about an equal proportion of the above-mentioned quality of liquid silicate, possesses greatly superior detergent properties, and consequently by its use the dirt is removed from articles of clothing, &c., with much less frictional labor than when the ordinary brown soaps are employed, and the effect upon the hands of the operators while using the said improved soap is such that they are left in as soft and smooth a condition at the close of the operation as they were at the commencement of the same. The said improved soap is also firmer, harder, and more compact than the ordinary yellow soaps, and consequently it does not dissolve and wash away as rapidly as other descriptions of soap. The linen, &c., cleansed by the aid of my said improved soap is also left in a whiter and clearer condition than when other soaps are employed in the washing process, and nearly or quite as good results are produced when the said washing process is accomplished with hard water as when soft water is employed.

My said improved soap may also be produced by thoroughly incorporating a proper proportion of the before-mentioned quality of liquid silicate with a newly-formed batch of soap while it is in a fluid state, and then drawing the same off into the cooling-frames in the usual manner.

A liquid silicate that was produced by the process which is covered by my patent of May 29, 1860, is the one which I have employed in the production of the within-described silicious soap; but any other liquid silicate which contains, by weight, a larger proportion of silex than it does of the alkaline base of the same will perhaps answer an equally good purpose. I would, however, observe that to the best of my knowledge and belief my patent liquid si-

licate above referred to is the only one as yet produced the use of which in the production of soaps would result in substantially the article for which I now ask the protection of a patent.

What I claim as my invention, and desire to secure by Letters Patent, is--

The use of a liquid silicate in the production of an improved quality of soap; but this

I only claim when the liquid silicate thus employed contains, by weight, a larger proportion of silex than it does of the alkaline base of the same.

GEORGE E. VANDERBURGH.

Witnesses:

Z. C. ROBBINS,

RANDOLPH COYLE, Jr.