

UNITED STATES PATENT OFFICE.

DAVID EGNER BREINIG, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN THE MANUFACTURE OF SOAP.

Specification forming part of Letters Patent No. 126,375, dated May 7, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, DAVID EGNER BREINIG, of the city of Brooklyn, Kings county, and State of New York, have discovered a new and Improved Process in Manufacturing Soap; and I hereby declare that the following is a full, clear, and exact description thereof.

Of late years soap manufacturers to increase the detergent property of soap add to it, when in a pasty state, from ten to fifteen per cent. of carbonate of soda, (sal-soda.) Soap, so made, is more detersive and better liked by laundresses, because it is quick cleansing; but it exerts a corrosive action upon organic substances, owing to its free alkali, and in a very few washings rots the fabric.

To overcome this, and leave the soap detergent and also harmless, I add to every pound of free soap used, one to two pounds of hydrate silicate of lime, which I prepare as follows: I take pure quartz (white flint) in crystals, and in a proper furnace bring it to a white heat, then plunge it into cold water, crush it to a fine powder, and in an ordinary potter's mill grind it into a pulp. Then add to every one hundred pounds of flint thus pulped, from one to five pounds of oxide of calcium, and grind them together from one to three hours, until a perfect paste or pulp is obtained and the calcium well united with the silicic acid, forming a hydrate silicate of lime. I now place it upon a kiln or drying-pan and evaporate the

water until only twelve to fifteen per cent. remains. I prepare my soap in the ordinary way, at a temperature of from 150° to 160° Fahrenheit. I run the pasty soap into a crutching-machine, dissolve eighty to one hundred pounds of carbonate of soda (sal-soda) by heat in its own water of crystallization, and heat the liquid to nearly 200° Fahrenheit, and add, according to the quality of soap it is desired to make, from eighty to one hundred and fifty pounds of hydrate silicate of lime, prepared as before described. After they are well mixed, add this compound to every thousand pounds of soap in the crutching-machine, and after it is well crutched run it into forms to cool. In preparing the soap in this way, the calcium in the hydrate silicate of lime unites with the soda, forming caustic soda, and the caustic soda unites with the hydrate silicic acid, forming silicate of soda, neutralizing the free alkali, but leaving all the detergent property of soda perfectly harmless and not liable to rot the fabric.

What I claim as new, and desire to secure by Letters Patent, is—

The use of the hydrate silicate of lime in the manufacture of soap, substantially as described.

DAVID EGNER BREINIG.

Witnesses:

GEO. H. COLLINS,
JOHN W. RIPLEY.