UNITED STATES PATENT OFFICE.

DUDLEY B. CHAPMAN, OF MILFORD, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND EBENEZER D. DRAPER, OF SAME PLACE.

IMPROVEMENT IN THE MANUFACTURE OF SOAP.

Specification forming part of Letters Patent No. **36,693**, dated October 14, 1862.

To all whom it may concern:

Be it known that I, DUDLEY B. CHAPMAN, a citizen of the United States of America, and a resident of Milford, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Soap; and I do hereby declare the same to be fully described in the following specification.

The component parts of the mixture employed by me in connection with the soap or a saponified oil or fat are as follows: one part, by weight, of an alkaline silicate—as silicate of soda, for instance; one-half a part, by weight, of vegetable flour or farina, whether the same be wheat-flour, potato-starch, corn-flour, or other vegetable equivalent therefor; one-half a part, by weight, of sal-soda. The sal-soda is to be melted in a kettle over a slow fire, a little water being added, if necessary. Next the flour and the melted soda are to be thoroughly mixed together, after which the alkaline silicate is to be added, and the whole should be well stirred, so as to thoroughly incorporate the ingredients together.

In mixing the composition with soap we may proceed as follows: After the soap may have been made, and while it may be in a liquid state, the said composition is to be mixed with it, after which the whole should be boiled for a few minutes, and in the meantime should be well stirred, in order to prevent it from being burned and adhering to the kettle. In some cases this boiling may be omitted. An advantage incident to this composition is that almost any amount of it will combine with the soap, whereas only a limited amount of alkaline silicate alone can be mixed with a given quantity of soap.

The use of flour with the alkaline silicate is to enable the latter to more readily combine with soap and to do so in a larger quantity than when used alone. It also imparts to the soap a fineness and firmness of texture and prevents it from wasting and effloresceing while in use. It also operates to surround the alkali so as to prevent injury by its caustic property either to the hands of a person or to articles while being washed with the soap.

The purpose of the sal-soda is to combine the flour with the silicate, the peculiar nature of the silicate preventing it from readily mixing with the flour; and, furthermore, when flour is combined with an alkaline silicate, whether the alkali be in excess or not in the silicate, the flour decomposes the silicate more or less, so as to impair its value as a detergent when compounded with soap. By combining a carbonate or caustic soda with the flour and the two with an alkaline silicate the decomposition above mentioned is avoided, and the mixture of the flour, alkaline silicate, and soap is rendered very much better for the purpose for which it may be used than when compounded without the carbonate or caustic soda. A definite and vary large amount of the compound of soda and flour can thus be introduced into the soap as a special adaptation. It is a false though common belief that an excess of alkali adds to the cleansing power of soap. Manufacturers of good soap avoid this, and consumers, when acids are not present in the articles to be washed in the soap, prefer a neutral soap. If we add flour to silicate, and thus partially decompose it, we have in the soap, when formed, silicate, fine sand, and flour, more or less dissolved and diffused. In the new compound as made by me we have soap-silicate and soda-soap of flour, all dissolved and all detersive. I therefore do not claim the combining of a soluble alkaline silicate with flour by any known process; nor do I claim the combination of such with soap as a saponified oil or fat; nor do I claim the combination of an alkali with flour, irrespective of any combination of the same with a saponaceous composition; but

I claim—

The combination of a carbonate or caustic soda with an alkaline silicate and vegetable flour combined with soap or a saponified oil or fat, substantially as described.

DUDLEY B. CHAPMAN.

Witnesses:
R. H. EDDY,
F. P. HALE, Jr.