

UNITED STATES PATENT OFFICE.

GEORGE T. LEWIS, OF PHILADELPHIA, PA., AND WILLIAM J. MENZIES, OF ST. HELEN'S, ENGLAND; SAID MENZIES ASSIGNOR TO SAID LEWIS, TRUSTEE OF THE AMERICAN LYE COMPANY, OF PHILADELPHIA, PA.

IMPROVEMENT IN COMPOUNDS FOR MAKING SOAP.

Specification forming part of Letters Patent No. **153,060**, dated October 10, 1876; application filed January 28, 1876.

To all whom it may concern:

Be it known that we, GEORGE T. LEWIS, of Philadelphia, county of Philadelphia, and State of Pennsylvania, and WILLIAM J. MENZIES, of St. Helen's, Lancashire, England, have invented certain new and useful Improvements in Alkali for Making Soap; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same.

In the manufacture of soap by the use of carbonate of soda or commercial soda-ash, it is necessary to first convert the ash into a caustic state. This is done by boiling the commercial soda-ash with lime.

The process of rendering carbonate of soda caustic is attended necessarily with large outlay and continuing expense, incident to the construction of a proper plant and maintaining the same in repair, and the expense of lime and labor, to which must be added the very considerable loss of soda in the process by the use of lime.

The object of our invention is to furnish a combination of soda-ash and caustic soda in such proportions as to produce a compound concentrated lye for the manufacture of soap of superior quality and less cost than that manufactured from caustic soda alone.

Our invention consists of a compound concentrated lye or saponifier, composed of two parts of caustic soda, of about sixty per cent. alkali strength, or its equivalent, and one part of soda-ash of commerce, of about fifty-five to fifty-eight per cent. alkali strength, put up in packages or quantities of a weight and size convenient for family use.

The compound lye may be made by either of the following-named processes: First, by melting the caustic soda and soda-ash together in proper proportions, or melting them separately in an iron vessel or vessels, and mixing in proper proportions; second, by melting

either the caustic or soda-ash in an iron vessel, and grinding the unmelted ingredient, (caustic soda or soda-ash,) and mixing it with the molten ingredient in proper proportions; third, by grinding the caustic soda and soda-ash separately in suitable grinding-machines, and, when thus granulated, mixing them together in proper proportions; fourth, by grinding caustic soda and soda-ash in proper proportions together in a suitable grinding-machine.

The process of making soap with this lye is substantially the same as the well-known process of making soap with caustic soda or other concentrated lyes. We have discovered that this compound lye becomes decomposed in the process of the manufacture of soap and gives its equivalent of caustic soda, and that the amount of soap produced from a given quantity of our compound is fully as great as the yield from an equal quantity of caustic soda, while the quality of the soap thus produced is much superior for family use to that produced from caustic soda alone.

The cost of soda-ash being much less than that of caustic soda, our compound furnishes a lye of greater cheapness, and of equal, if not greater, superiority than the ordinary lye composed of caustic soda.

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

A compound for making soap, consisting of caustic soda and soda-ash, combined in the manner specified and described.

GEORGE T. LEWIS.

W. J. MENZIES.

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