

# UNITED STATES PATENT OFFICE.

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## SOAP-MAKING COMPOUND.

SPECIFICATION forming part of Letters Patent No. 532,465, dated January 15, 1895.

Application filed November 30, 1894. Serial No. 530,420. (No specimens.)

*To all whom it may concern:*

Be it known that I, GEORGE T. LEWIS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Soap-Making Compounds, of which the following is a true and exact description.

My invention relates to a powdered or granulated lye for family use in making soap or for detergent purposes. As heretofore generally used such lye has been made of caustic soda, though attempts, more or less successful, have been made to provide a compound granulated lye of caustic soda and caustic potash. Such a compound, however, owing to the highly deliquescent nature of caustic potash, presents many difficulties to the compounder and dealer and, so far as I know, the only practical way of compounding the two substances heretofore used, is that described in the patent to W. J. Menzies, No. 345,714, of July 20, 1886, Menzies making a compound lye containing from five to twenty-five per cent. of caustic potash, by grinding the caustic soda and potash together, and preferably first fusing the two substances into a cake and then grinding the cake. I have discovered however, that it is practicable and highly advantageous to provide a compound granulated lye containing substantially equal quantities of caustic soda and caustic potash, and that the quantity of potash may be even as high as seventy-five per cent. without injury to the compound. It is of course evident that the caustic potash may be less in proportionate quantity than fifty per cent. but to obtain good results in use, the proportion should never run so low as twenty-five per cent., the maximum mentioned by Menzies, and the mixture of substantially equal quantities will be found to give by far the most valuable compound.

My new compound will be found to be stable when the ingredients are thoroughly intermixed, as they must be, and will in use form a soap sufficiently hard, with excellent lathering and detergent qualities, and suitable for washing flannels or other woolen goods which are injured by soda soaps.

As I have already noted it is essential that the caustic soda particles and caustic potash

particles should be thoroughly mixed, and while I do not confine myself to any mode of attaining this intermixture I have found in practice that it can be best secured by grinding the caustic soda and caustic potash separately and then thoroughly mixing measured quantities together in some efficient mixing machine. This method which forms the subject matter of my application for a patent filed October 27, 1893, Serial No. 489,262, is practicable by taking precaution to grind the caustic potash immediately before mixing it with the caustic soda, its tendency to deliquesce being obviated, or checked when deliquescence has begun, by its division among particles of caustic soda.

The highly deliquescent nature of caustic potash renders it very difficult to reduce it to a granular or powdered form and at the same time to obviate the absorption of water by the particles to an extent which will unfit it for use either alone or in admixture with caustic soda. A thoroughly satisfactory product can however, be obtained by proceeding as follows: The caustic potash while in a fused condition should be poured into a sheet iron drum which, when full, is hermetically closed. This, as is well known, is the usual way of packing the caustic potash for transportation. Before grinding the caustic potash I break up the cold and brittle contents of the drum by striking it repeatedly on the outside. I then tear open the drum and feed its contents as rapidly as possible to a grinding and sieving mill by which it is reduced to the desired fineness. The mill should be operated as rapidly as possible and, indeed, precaution taken throughout to expose the caustic potash as little as possible to the air. Treated in this way a ground product is obtained sufficiently free from moisture to enable it to be used in admixture with the soda.

While the compound prepared as above described will as I have stated be free from injurious deliquescence, and is a very useful compound, it is both for use and for keeping much improved by the addition to the cold compound of a small quantity of perfumed essential oil which I have found not to be destroyed by either ingredient of the mixture, and which will permeate the mass and impart perfume to the soap made from it. Not only



is this so, but the essential oil serves, especially where a high percentage of caustic potash is used, to counteract the tendency of the potash to deliquesce owing to the fact that  
5 the powdery particles of caustic potash, which would be the first to take up water, are most richly impregnated with the oil and so protected against moisture.

Having now described my invention, what  
10 I claim as new, and desire to secure by Letters Patent, is—

1. A compound for family use in soap making or for detergent purposes consisting of a thorough intermixture of powdered or granulated caustic potash and powdered or granulated caustic soda in the proportions sub-

stantially as specified, and in which caustic potash exceeds thirty per cent. of the mass.

2. A compound for family use in soap making or for detergent purposes consisting of a  
20 thorough intermixture of powdered or granulated caustic potash and powdered or granulated caustic soda in proportions substantially as specified and in which the caustic potash exceeds thirty per cent. of the mass, 25 together with a perfumed essential oil, permeating the mixture, all substantially as and for the purpose specified.

GEORGE T. LEWIS.

Witnesses:

SAMUEL N. LEWIS,

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