

# UNITED STATES PATENT OFFICE.

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## PROCESS OF MAKING GRANULATED COMPOUND LYE.

SPECIFICATION forming part of Letters Patent No. 532,467, dated January 15, 1895.

Application filed October 27, 1893. Serial No. 489,262. (No specimens.)

*To all whom it may concern:*

Be it known that I, GEORGE T. LEWIS, a citizen of the United States, residing in Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in the Methods of Making a Granulated Compound Lye for Family Use, of which the following is a true and exact description.

My invention relates to the manufacture of a granulated compound lye for family use consisting of caustic soda and caustic potash and adapted for the manufacture of a good soap suitable for washing flannels as well as for general purposes.

Heretofore the preparation of such a granulated compound has presented certain difficulties largely arising from the highly deliquescent nature of caustic potash and the most successful process for preparing such a compound known to me has been that described in the patent to W. J. Menzies, No. 345,714, dated July 20, 1886; Menzies grinding the caustic soda and caustic potash together and preferably first fusing them into a cake and then grinding the cake to produce the granulated lye. By this method Menzies was able to use a comparatively small percentage of caustic potash given by him, as from five to a maximum of twenty-five per cent., and the mixture was not as homogeneous as is desirable.

Now I have discovered that a compound of superior quality can be prepared by grinding the two ingredients separately and then thoroughly mixing together measured quantities in such a way as to thoroughly distribute the granules of caustic potash through the mass of caustic soda. Such a distribution will check or obviate the tendency of the caustic potash to deliquesce and the compound should then be packed carefully in small packages of say, pound contents.

The highly deliquescent nature of caustic potash renders it difficult to reduce it to a granular or powdered form without deliquescence. It is practicable however, to secure a dry granular caustic potash suitable for mixing with granular caustic soda, as above described, by the following treatment: I poured fused caustic potash into a sheet iron drum, as is usual in putting up the substance for

transportation, closing the package to exclude air and moisture. The caustic potash solidifies in the drum on cooling and, prior to grinding, the drum is struck repeatedly to break up its contents. I then tear open the drum and immediately empty its contents into a grinding and sieving mill which should be worked as rapidly as possible to render the cold hard caustic to granular form. Treated in this way no deliquescence takes place in the caustic potash and the ground product can be mixed with the caustic soda as above described and with the result of forming a sufficiently permanent mixture or compound. I will note, however, that I consider it advisable to transport the ground caustic potash as promptly as possible to the mixing apparatus as the mixture is less likely to absorb water than the potash alone, and such absorption is also less likely to take place if the caustic potash has absorbed no water or but little of it.

By manufacturing my compound in the way described I am enabled to safely use a much higher proportionate quantity of caustic potash in the compound than the maximum given by Menzies and I secure the most valuable and useful compound for use by using substantially equal parts of the two ingredients. This specific compound having proved most efficient in the manufacture of a soap hard enough to cut into bars while at the same time to give a good lather, has excellent detergent properties and is well suited for washing woolens.

The compound before mentioned having the high percentage of caustic potash forms the subject matter of another application for a patent filed by me October 27, 1893, Serial No. 489,261.

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

1. The method of making a compound for family use in soapmaking &c., which consists in grinding caustic soda to the desired fineness, and grinding caustic potash to the desired fineness separate and apart from the caustic soda and with precaution to prevent deliquescence, then thoroughly mixing the independently ground caustic soda and potash together in the desired proportion in such a

way as to produce a homogeneous mixture or compound.

2. The method of making a compound for family use in soapmaking &c., which consists  
5 in grinding caustic soda to the desired fineness, and grinding caustic potash to the desired fineness separate and apart from the caustic soda and with precaution to prevent deliquescence, then thoroughly mixing sub-

stantially equal quantities of the independently ground caustic soda and potash together in such a way as to produce a homogeneous mixture or compound.

GEORGE T. LEWIS.

Witnesses:

WM. FISHER LEWIS,  
H. R. SHULTZ.