UNITED STATES PATENT OFFICE.

CERF MAYER LEVY AND GUSTAVE ALEXANDRE, OF PARIS, FRANCE.

COMPOSITION FOR BLEACHING AND WASHING LINEN, &c.

SPECIFICATION forming part of Letters Patent No. 254,487, dated March 7, 1882.

Application filed September 30, 1881. (No specimens.) Patented in France February 11, 1880.

To all whom it may concern:

Be it known that we, CERF MAYER LEVY and GUSTAVE ALEXANDRE, both of Paris, in the Republic of France, have invented an Improved Solid Lye Composition for Washing and Bleaching Linen and for Analogous Purposes, (for which we have obtained Letters Patent of France for fifteen years, dated February 11, 1880, No. 134,994;) and we do hereby declare that the following is a full and exact description thereof.

Formerly lye for washing linen was usually made with wood-ashes, as is still done in many countries where wood is abundant; but since the use of coal has become almost general for domestic and industrial heating purposes, the use of wood-ashes has been abandoned, and they have been replaced either by strong soda-crystals, known under the commercial name of "potashes," or, more rarely, by liquid lye compositions previously prepared.

Heretofore there has been no lye obtained in the solid state which would present considerable advantages from a commercial point of view and would render industrial services of the greatest importance.

We have invented a combination of substances forming an economical solid product quite soluble, and eminently suited for washing linen, bleaching stuffs or tissues, and for all other similar purposes. Our product is not a soap, for it serves exclusively for bucking (*couler*) the linen—that is, for making the lye. Consequently it cannot be confounded with the innumerable compositions of soap which have formed the object of a great number of patents. We may add that soaps are always employed after the bucking (*coulage*) of the linen, and that our product is employed for bucking the linen.

We put into a boiler or copper eight hundred liters of water, seven kilograms of *Fucus crispus*, (lichen,) ten kilograms of colophony or resin, and twelve kilograms of liquid caustic soda at 40° Baumé. The whole is boiled until a perfect emulsion is obtained, which is passed hot through a strainer or sieve. Into a receiver of a capacity of about twelve hundred to fifteen hundred liters, furnished with a tap, are placed five hundred liters of the preceding preparation, either hot or cold; five hundred kilograms of silicate of soda or silicate of potassa; five hundred kilograms of liquid soda, called "caustic soda." After perfect mixture we put into a large sheet-iron back thirty to fifty kilograms of oleic acid (oleine) or of palm-oil, cocoa-oil, or other fatty body suitable for saponification, which we triturate with about forty kilograms of carbonate of soda. After this preparation, and having taken care to place the receiver and the back near together, the tap of the receiver is opened and the liquid is received into a bucket and poured into the back, one thousand kilograms of carbonate of soda being incorporated, little by little, by mixing with shovels or otherwise, until complete homogeneity is attained. In this state the product is removed from the back, by means of shovels or other convenient means, and thrown into troughs with inclined faces—of trapezoidal section, for example—where it is molded and quickly becomes as hard as stone.

When it leaves the molds the lye may be delivered for use; but we prefer to cut or break it into regular or irregular pieces by a mechanical or manual process.

By its detersive composition our solid lye, to which we give the name of "Phœnix," assures by its employment an economy of at least fifty per cent. of soap compared with the consumption usually required for bleaching linen. It completely suppresses javel-water (*eau de javel*) so injurious to fine and other linen. It thus effects not only a commercial economy, but also and especially a domestic economy, since it has not the inconveniences of staining and burning the linen inherent in the caustic salts of soda, called "potashes," heretofore exclusively employed.

We claim—

The composition of a mixture of water, *Fucus crispus*, resin, and liquid caustic soda, with silicate of soda, and with liquid caustic soda, and with a mixture of oleic acid and carbonate of soda, in about the proportions specified, all compounded to produce a solid lye, substantially as set forth.

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Witnesses:
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ACH. JOLLET.