

UNITED STATES PATENT OFFICE.

JAMES M. LEGARÉ, OF AIKEN, SOUTH CAROLINA.

IMPROVEMENT IN PREPARING PLASTIC COTTON FOR MOLDING PURPOSES.

Specification forming part of Letters Patent No. **18,980**, dated December 9, 1857.

To all whom it may concern:

Be it known that I, J. M. LEGARÉ, of Aiken, Barnwell district, in the State of South Carolina, have invented a new and useful mode of preparing cotton or other fibrous materials, causing said materials to lose their native elasticity and to become plastic and capable of being worked; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying text.

The nature of my invention consists in rendering cotton, lignine, or any fibrous material whatever soft and plastic, capable of being worked up by hand without the use of molds, and so converted into furniture of solid or open patterns and decorations of buildings generally, and into fire and water proof roofing.

To enable others skilled in the arts to apply and use my invention, I will proceed to state the process in full, together with the materials I have most advantageously employed, repeated trials having shown that an omission of any part of said process to save labor or materials will result in injury to the manufactured articles.

First, steep in a hot solution of any caustic alkali the cotton or other fibrous product until the lignine is in part freed from gummy or other matters, then wash in three or four waters and dry, avoiding the use of acids. In roofing, from one to two pounds of this lignine will cover ten square feet, according to the thickness desired. The solutions required may be kept on hand, either separately or united in proper proportions as given below, and are thus composed, namely:

(A.) One-half pound alum; one gallon water. Dissolve.

(B.) One pound sulphate of protoxide of iron; one gallon of water. Dissolve.

(C.) One-quarter pound glue; one gallon of water. Dissolve with heat; does not coagulate when cold. (Cool.)

(D.) One pound glue; one gallon water. Dissolve with heat and add one pint gypsum.

If the process be for furniture or ornamental

work, take eight parts solution D; twelve parts sulphate of lime; two parts sulphate of iron, (B;) one part solution A; one part coloring-matter. Thoroughly macerate the lignine in this menstruum under a boiling heat. Allow it to cool before using.

If a roofing material be required, employ the same process, altering the proportions of the ingredients thus—eight parts solution C; four parts sulphate of iron, (B;) five parts sulphate of lime; one part coloring-matter; one part solution A. Take notice that if the order of the ingredients here given be altered a premature chemical change will be effected and the material be spoiled; also, that solutions C and D serve merely to give plasticity to the mass and hinder a too rapid union of its elements. The chemical change desired is effected without their agency, as will appear by omitting solution C from the second recipe above given; also, that the ingredients aforesaid may be mixed in a dry state and so kept ready for use. When the material is to be exposed to the weather, it should be coated when dry with an impermeable varnish (hot) effectually to destroy its porosity, such varnish being easily and cheaply made from various substances. For indoor use ordinary copal varnish may be employed. The plastic material prepared by either modification of the process above given acquires great hardness, does not crack on exposure, and is not effected by changes of temperature, and is essentially fire and water proof.

What I claim as my invention, and desire to secure by Letters Patent, is—

The process for rendering cotton and other fibrous materials, including lignines of all kinds, plastic and capable of being worked by hand or applied to roofing and other kindred uses, substantially in the manner and for the purposes set forth in the foregoing specification.

J. M. LEGARÉ.

Witnesses:

T. D. MATHEWS,

I. D. LEGARÉ.