

UNITED STATES PATENT OFFICE.

XAVIER KARCHESKI, OF BELLEVILLE, NEW JERSEY, ASSIGNOR TO SOLO-
MEN D. McMILLAN, TRUSTEE, OF NEW YORK, N. Y.

IMPROVEMENT IN WATER-PROOF MATERIALS.

Specification forming part of Letters Patent No. **137,451**, dated April 1, 1873; application filed
March 15, 1873.

To all whom it may concern:

Be it known that I, XAVIER KARCHESKI, of Belleville, in the county of Essex and State of New Jersey, have invented a certain new and Improved Manufacture of Water-Proof Material, of which the following is a specification:

My improved article of manufacture consists of cloth or other textile vegetable fabrics, either alone or united with paper or similar fibrous material rendered insoluble in water by treatment with sulphuric acid, substantially in the manner hereinafter set forth.

The material is prepared by substantially the process described in my application for patent filed simultaneously with this, to which reference is made, and which is substantially as follows: The cloth or other textile fabric alone, or cloth and paper, or other fibrous material, as the case may be, is first immersed in a bath of sulphuric acid, after removal from which it is subjected to a higher temperature to accelerate the action of the acid in dissolving its fiber, either by treating it to an air-bath, in which the absorption of moisture from the air by the acid produces the required heat, or by subjecting it to a hot-air bath or blast. When, by this means, the fiber of the material has been partially dissolved, more or less, according to the nature of the material and the result required, it is subjected to pressure to expel the excess of acid and promote the agglutination of the fiber and compact the material together. The material is next treated to a water-bath and to compression therein, to eliminate the acid as far as possible and com-

plete the agglutination of the material into a compact homogeneous mass, this step of the process being prolonged without interruption until the required effect is produced. The process is repeated, if necessary, after the material is thoroughly dried, until the required stiffness, tenacity, and flexibility are attained.

The material may be formed from two or more thicknesses of cloth, or of any number of thicknesses of cloth and fibrous material combined, according to the use to which it is to be applied.

The material prepared in this manner is not only insoluble in water, but is strengthened and rendered permanently stiff and elastic. Formed from cotton cloth alone or in combination with paper, it may be applied to the manufacture of imitation linen, &c. Formed from suitable cloth, it may be used as a lining for clothing. It may also be formed from cloth to be used as a substitute for leather in various arts. Its susceptibility of application to numerous arts and manufactures renders it valuable and important.

What I claim is—

As a new article of manufacture, cloth or other vegetable textile fabrics, either alone or united with paper or similar fibrous material, rendered insoluble in water by treatment with sulphuric acid, substantially as and for the purpose described.

XAVIER KARCHESKI.

Witnesses:

MARTIN GILLET,
GEO. W. MIATT.