

# United States Patent Office.

CHARLES MONESTIER AND F. BANG, OF PARIS, FRANCE.

*Letters Patent No. 87,277, dated February 23, 1869.*

## IMPROVED WATER-PROOF FABRIC FOR THE MANUFACTURE OF COLLARS, CUFFS, AND OTHER ARTICLES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that we, CHARLES MONESTIER and F. BANG, of Paris, in the Empire of France, manufacturers, have invented new and useful Improvements in the Preparation of Impermeable Paper for Manufacturing Several Fabrics or Articles; and we do hereby declare that the following is a full and exact description thereof.

Our invention consists, first, in manufacturing imitation collars, cuffs, shirt-fronts, petticoats, curtains, and other similar articles of vegetable parchment, or of paper or pasteboard that has partially undergone the process of conversion into vegetable parchment, and which is called impervious paper; and, secondly, in the manufacture of lace-paper, and that kind of material usually composed of cotton cloth, or other similar fabric, placed between two layers of paper, pasteboard, or paper-pulp.

It is well known that by soaking unsized paper in a concentrated solution of sulphuric acid, vegetable parchment is obtained which is transparent, stiff, impervious to water, and of a yellowish color.

Now, we have discovered that by treating sized paper by the same process, a slight layer of vegetable parchment is deposited on the surface of the paper, for, as the acid cannot penetrate the whole thickness, the effect of the treatment is limited to the surface only.

By this process, therefore, we obtain a paper only partially converted into vegetable parchment, a material less stiff, brittle, and transparent, but one which is perfectly water-proof, and can safely be washed in water with soap, alkalies, and other cleansing-substances. It is this action of sulphuric acid on sized paper that forms the foundation of our invention.

We soak sized paper or pasteboard in hydrated sulphuric acid for a few minutes. We then thoroughly wash it in water, and after that, in an alkaline solution, to efface the remaining traces of acid.

This alkaline solution is a more or less concentrated solution of carbonate of soda or potash, or a solution of caustic soda or potash, or any other solution that is capable of neutralizing the sulphuric acid that still remains in the paper.

In order to give to the paper thus far manufactured, a white and shining appearance, we deposit on its surface a slight coat of mineral-white, for instance, by soaking it in a solution of salts of baryta, by which means a layer of sulphate of baryta is deposited over the surface.

The paper can also have a blue tinge imparted to it by any known means.

From this paper or pasteboard, thus manufactured, we cut the imitation collars, cuffs, and other articles, above mentioned, all of which can be washed, and will not be injured by perspiration.

Sometimes we use pure vegetable parchment for the same purposes; but, as it is yellow and transparent, instead of treating ordinary unsized paper with sulphuric acid, we operate upon unsized paper that has been soaked beforehand, in a solution either of salts of baryta, lime, or strontian, (lead being too dangerous for the purpose.)

The paper is then dried, and afterward soaked, as usual, in sulphuric acid. The acid converts the paper into vegetable parchment, and at the same time, in mixing with the above-mentioned salts, forms thereon a white, insoluble sulphate, which renders the parchment white and opaque.

We can equally well manufacture these articles of any desired tint, by coloring the paper, either before or after it has undergone the above-mentioned process, with any coloring-matter that cannot be decomposed by sulphuric acid, viz, any color of aniline, such as fuchsine, for imparting a red tinge to the articles, or Hoffman's violet, or any similar compound.

Our process may be applied to paper made of rags, wood, straw, or any other paper now in use, and when thus treated, may be used for lace, curtains, paper-hangings, counterpanes, boxes, playing-cards, and for many other articles.

Having now described our invention,

What we claim, and desire to secure by Letters Patent, is—

The process for the preparation of impervious vegetable parchment, and the manufacture, with this new product, of the above-mentioned and other similar articles, as herein described and specified.

In testimony whereof, we have signed our names to this specification, before two subscribing witnesses.

CH. MONESTIER.  
F. BANG.

Witnesses:

C. LAFOUD,  
F. OLCOTT.