

# UNITED STATES PATENT OFFICE.

BENJAMIN WEIGERT, OF NEW YORK, N. Y.

## IMPROVEMENT IN WATERPROOFING TEXTILE FABRICS.

Specification forming part of Letters Patent No. 15,585, dated August 19, 1856.

*To all whom it may concern:*

Be it known that I, BENJAMIN WEIGERT, of the city, county, and State of New York, have invented a new and Improved Mode of Waterproofing Textile Fabrics; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in permanently obstructing the water-passages of textile fabrics with molecules of aluminium enveloped in glue, making the fabric permanently—that is, even after repeated washing—impermeable to water, without changing any of its ordinary properties or its permeability to air.

I proceed as follows: I dissolve five ounces of acetate of lead in eight pounds of water, and likewise five ounces of alum in eight pounds of water; in separate vessels. On pouring the solutions together sulphate of lead is precipitated, the supernatant fluid being a solution of the acetate of alumina, which latter alone I pour off for use in a proper vessel. I then boil in two separate earthen pots two pounds of water with one ounce of caustic soap, also the same quantity of water with one ounce of glue, and after having added to the latter two ounces of alum, while in ebullition I pour the two solutions—that is, the soap and the glue solutions—together, and leave the mixture to cool, and when cool I add it to the above solution of acetate of alumina, when the composition is ready for use.

I do not pretend to establish it as an absolute fact, but the effects fully warrant the theory that the molecules of aluminium suspended in the solution of the acetate of alumina, on pouring into the solution of glue, above described, become each of them enveloped in glue partially coagulated. Any textile fabric being then treated with my composition, those molecules will lodge in the pores and interstices of the texture with sufficient adhesion not to be carried away by the ordinary pressure of water, and thus to oppose its passage by reverting the hydrostatic-relation of the capillary vessels of the fabric.

In all the methods hitherto attempted to

waterproof textile fabrics by the application of metallic solutions the aluminium, as such, has never been tried, and in no case the use of glue in the manner and for the purposes as explained has been thought of. The effect is striking. While in all heretofore-known cases of waterproofing by metallic deposits the water-proof quality, of the fabric is destroyed, one single application of a sufficient pressure to force a liquid through fabrics prepared with my solution will retain their water-proof quality, even after repeated forcing of liquids through them, provided they be subsequently thoroughly dried. Thus the fabrics prepared with my composition may be washed as often as required without having thereby their water-proof quality destroyed or impaired.

The treatment of the fabrics is simple immersion in the composition, a sufficient rinsing, working, and squeezing, according to the nature of the fabric treated, to insure a thorough imbibition of the liquid, and after thorough drying in the open air the usual ironing, which has to be preceded by the equally usual water-sprinkling or dew.

I do not enlarge upon the advantages of my method of waterproofing. They are far surpassing any of the known methods from what has been stated above; but I cannot omit to point out the equity of cost for materials, as well as for manual labor required in my process, when compared with any of the processes heretofore known or used.

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

The treatment of textile fabrics with a solution of acetate of alumina and glue, prepared in the manner and from the ingredients and proportions stated, and for the purposes specified.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

BENJAMIN WEIGERT.

Witnesses:

JOSEPH KLEINDIENST,  
CHAS. WALTER.