

# UNITED STATES PATENT OFFICE.

CHARLES N. WAITE, OF LANSDOWNE, PENNSYLVANIA, ASSIGNOR TO  
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WATERPROOF VISCOSE-COATED FIBER AND PROCESS OF MANUFACTURING SAME.

SPECIFICATION forming part of Letters Patent No. 791,386, dated May 30, 1905.

Application filed February 13, 1905. Serial No. 245,391.

*To all whom it may concern:*

Be it known that I, CHARLES N. WAITE, of Lansdowne, in the State of Pennsylvania, have invented certain new and useful Improvements in Waterproof Viscose-Coated Fibers and Processes of Manufacturing the Same, whereof the following is a specification.

My invention relates to a product which may be termed "artificial horsehair," since its physical characteristics are in some degree comparable to those of natural horsehair.

In conducting the process for manufacturing the fiber I proceed as follows: I take a suitable fiber—such as, for instance, cotton thread—and pass it through a bath of viscose, preferably in the condition which is technically known in the art as "unaged"—that is to say, in such condition that it still remains appreciably soluble in water alone. The time of immersion in the bath of viscose need only be sufficient for the application of an exceedingly thin coating thereof, and after such coating is thoroughly worked in, so as to insure as far as possible the filling of all the interstices in the thread, the coating is dried, preferably by artificial heat. This treatment is repeated until a sufficient number of viscose coats have been applied to give the desired weight. The surface of the final coat is then redissolved by immersion in water and the coated fiber is passed into a setting-bath containing any of the well-known reverting agents for viscose. After reversion the coated fiber is washed and dried. I then apply to the surface a varnish of waterproof material, preferably a petroleum oil of very low volatility, which, without rendering the coating sticky and adhesive, is of such character as to be retained with substantial permanence.

I contemplate modifications of the process for applying the viscose coatings—such as, for instance, the following: Instead of em-

ploying for the final coating a bath of unaged viscose I may apply viscose in the aged condition, in which case it is not necessary to redissolve the surface of the final coat by water before reversion, but the coated fiber may be immediately passed into the setting-bath before the final coat is dried. Again, I may proceed by employing aged viscose for all of the coatings, and in this case the successive coatings, with the exception of the final one, should be dried. The final coat is not dried; but immediately after its application the coated fiber is passed into the setting-bath and reverted. The product is then washed, dried, and varnished, as above stated.

By these methods I obtain a highly waterproof, lustrous, and permanent surface upon the coated fiber, which is adapted for many uses in the arts.

Having thus described my invention, I claim—

1. The hereinbefore-described waterproof viscose-coated fiber, comprising a fibrous base; a plurality of independently-applied viscose coats; and an external varnish, of substantially the character set forth.

2. The hereinbefore-described process of manufacturing waterproof viscose-coated fiber, which consists in applying a plurality of coats of viscose; drying each of said coats before the application of the next; setting the viscose by reversion after the application of the final coat, and finally coating the same with a varnish of substantially the character set forth.

In testimony whereof I have hereunto signed my name, at Philadelphia, Pennsylvania, this 31st day of January, 1905.

CHARLES N. WAITE.

Witnesses:

JAMES H. BELL,  
E. L. FULLERTON.