

UNITED STATES PATENT OFFICE.

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PROCESS OF BLEACHING AND SOFTENING JUTE FIBER.

994,508.

Specification of Letters Patent.

Patented June 6, 1911.

No Drawing.

Application filed August 5, 1909. Serial No. 511,345.

To all whom it may concern:

Be it known that I, SAMUEL A. FLOWER, a citizen of the United States, and a resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Processes for Bleaching and Softening Jute Fiber, of which the following is a specification.

This invention relates to a certain new and useful process for bleaching and softening jute fiber to make it specially useful as a spinning material although it may be used for many other purposes.

Up to the present time the use of jute for textile purposes has been limited in its use, owing to the difficulty of treating and bleaching the fiber satisfactorily. The fiber as heretofore treated is imperfectly bleached, reduced in strength and weight. It retains the objectionable features of the original fiber, such as its woody appearance, brittleness, lack of elasticity and softness and deteriorates by age becoming dingy and yellow and absorbs a large percentage of moisture. Treatment as heretofore has not resulted in a substantial change of the characteristics of the raw product. I have discovered that it is possible to eliminate those objectionable characteristics by a combination of chemical elements with the jute fiber to produce a practically new article therefrom.

To carry the invention into effect I take about 100 pounds jute fiber and place it in a solution composed of 95 pounds of water, 2 pounds of caustic soda, 2 pounds of chlorid of lime and 1 pound of soap. After heating the jute fiber in the solution for about three hours at 150 degrees F. the mechanical impurities are loosened and the jute pigment is made soluble in water. The fiber is then washed, taken out and centrifuged. Next it is placed in a second bath composed of a solution of about 90 lbs. of water, 7 lbs. of chlorid of lime, 2 lbs. carbonate of soda and

one pound of glycerin heated to about 70° F. and allowed to soak for about two hours; the fibers having been thoroughly bleached and resembling cotton in appearance, are then taken out, washed and wrung out. The product is then treated with a mixture of about 90 lbs. of water, 1 lb. of glycerin, 6 lbs. chlorid of lime, 1 lb. of soap and two lbs. of carbonate of soda, which makes the fiber soft and silky resembling wool. I then place the material in a third bath composed of cold aqueous solution of bisulfite of soda of about 5 degrees Twaddell for about one-half hour. The fiber is then washed and dried, which sets the color thereof. As a further step to make the fiber waterproof, I immerse the fiber for about one hour in a bath of acetate of alumina 4 to 5° Baumé, prepared by dissolving hydrate of alumina in acetic acid after which it is squeezed and dried.

The proportions of the ingredients in the mixtures as given above may vary somewhat, but I have found the proportions as stated produce good results.

Having described my invention what I desire to secure by Letters Patent and claim is:

The process of treating jute fiber with a hot solution of water, an alkali, chlorid of lime and soap to loosen the mechanical impurities and convert the jute pigment into a soluble form, then washing with water and wringing out, next treating the fiber in a solution of water, chlorid of lime, carbonate of soda and glycerin, then treating the fiber with a mixture of glycerin, chlorid of lime, soap and carbonate of soda.

Signed at the borough of Manhattan in the county of New York and State of New York this 4th day of August A. D. 1909.

SAMUEL A. FLOWER.

Witnesses:

A. A. DE BONNEVILLE,
MARTIN ZIMANSKY.