

UNITED STATES PATENT OFFICE.

WILLIAM H. L. JONES AND GEORGE C. WARR, OF PATERSON, NEW JERSEY.

PROCESS OF SOFTENING VEGETABLE FIBER.

SPECIFICATION forming part of Letters Patent No. 507,225, dated October 24, 1893.

Application filed April 20, 1892. Serial No. 429,917. (No specimens.)

To all whom it may concern:

Be it known that we, WILLIAM H. L. JONES and GEORGE C. WARR, citizens of the United States, residing in Paterson, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Processes of Softening Vegetable Fibers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Heretofore it has been impractical to spin the coarser vegetable fibers such as hemp, jute, ramie and the like into fine threads or yarns, soft in texture and of the requisite strength.

The object of our present invention is to so soften the fibers of plants such as hemp, jute, ramie and the like so that the same may be spun to any degree of fineness and softness, without impairing the tenacity or strength of the same.

The present invention consists in subjecting the fiber to the action of a solution containing an alkali, soap, oil and glycerine until the fibers are sufficiently softened and in thereafter drying the same. The proportions of these various ingredients may vary somewhat according to the nature of the fiber to be treated, but we have found that the following proportions will give, ordinarily, good results, viz: Water, eighty-five per cent.; alkali or alkaline compound, one per cent.; oil, seven per cent.; soap, five per cent., and glycerine, two per cent. The alkali to be used is by preference caustic soda (at about 33°) although other alkalies such as saltpeter, or ammonia may be used with equally good results.

To carry out our invention, the fibers are first washed of their impurities and then placed in a tank or vat containing a solution of alkali, soap, oil and glycerine. The fibers are boiled in this solution of potassium, soap, oil and glycerine until they are thoroughly saturated and softened.

Instead of boiling the fibers, the solution of alkali, soap, oil and glycerine may be heated to a temperature below the boiling point and the fibers allowed to remain in this solution until they become saturated and softened. The fibers are then removed from the solution and dried, the elements of the solution remaining in combination with the fibers. It will be found that after this treatment the fiber loses its harsh, brittle texture and becomes soft and silky and may be spun into delicate threads or yarns in the usual well known way without impairing the tenacity of the material.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

The herein described method of softening vegetable fiber which consists in first subjecting the fiber to the action of a solution of alkali, soap, oil and glycerine, until the fiber is saturated and softened, and in then drying the saturated fiber, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands this 18th day of April, 1892.

WILLIAM H. L. JONES.
GEO. C. WARR.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.