UNITED STATES PATENT OFFICE.

CHARLES TOPPAN, OF SALEM, ASSIGNOR TO THE CANTON MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS.

PROCESS OF SEPARATING AND SUBDIVIDING VEGETABLE FIBER.

SPECIFICATION forming part of Letters Patent No. 303,342, dated August 12, 1884.

Application filed March 27, 1884. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES TOPPAN, of Salem, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Processes of Separating and Subdividing Vegetable Fibers, of which the following is a specification.

The object of my invention is to provide a cheap, simple, convenient, and expeditious process for separating and subdividing vegetable fibers by dissolving and removing the outer coat, bark, skin, or rind, and all glutinous, resinous, or other adhesive substances, which unite the fibers together so tenaciously that heretofore it has required the process of rotting to be continued for a long time to partially disentegrate them or permit of their separation by machinery, which operations very materially reduce the strength of the fibers so treated; and it consists in the employment and use of the compound or product the base of which was secured to me by Letters Patent No. 186,640, dated January 23, 1877, and more particularly described and set forth in Letters Patent No. 263,365, granted to me, and dated August 29, 1882, and hereinafter more fully described, and specifically set forth in the claims.

In carrying out my invention I proceed about as follows: Take any suitable vessel, boiler, or keer, and partially fill the same with water, to which I add a suitable quantity of the compound known in commerce by the trade-name of "Sinapetroline No. 2," being a compound composed of mineral oil or petroleum products and a small percentage of expressed mustard-seed oil and an alkali, or may be saponified petroleum, which is dissolved by heating the water. Then the vegetable fibrous substances are immersed in the hot solution and boiled sufficiently to separate the outer coat, skin, bark, or rind of the stalks from the fibrous portions. This is facilitated by stirring, rubbing, and washing the same until the fibers are separated from the shive or woody portions, when the freed fibrous portions may be removed and immersed into a clean hot solution of the same and boiled, which dissolves the resinous, tarry, and glutinous substances forming the cell-tissues, and thereby subdividing the fibers and leaving them in a finely-divided or superior condition for bleaching. A great advantage of my process over others designed for this purpose consists in the adaptation of treating the hardest woody stalks—such as cotton-plant, yucca, bromelia, ramie, flax, jute, hemp, &c.—in a very cheap, simple, and expeditious manner, and producing a superior fiber of greater strength and durability, as well as increased pliability or softness when bleached by means of the process described in my Letters Patent dated August 29, 1882, No. 263,365, above referred to, and which is peculiarly adapted for bleaching the fibers which have been separated and treated by this process of mine above described, which may form one continuous operation from the separation of the fibers to the bleaching of the same, and thereby reduce the expense and labor, so as to produce the prepared fibers at a great saving.

Having thus described my invention, what I claim is—

1. In the art of separating and dividing vegetable fibers, boiling the same in a solution of expressed mustard-seed oil, petroleum products, and alkali, whereby the resinous and glutinous substances are dissolved, substantially as described.

2. The process of separating and dividing vegetable fibers, which consists in dissolving and removing the resinous and glutinous substances by boiling the fibrous stalks in a solution of sinapetroline No. 2, whereby the bark, rind, and woody portions may be separated from the fibers, substantially as described.

3. The process of separating and dividing vegetable fibers, which consists in boiling the same in a solution of sinapetroline No. 2, substantially as set forth.

CHARLES TOPPAN.

Witnesses:
W. O. ARNOLD,
E. W. HOWE.