

UNITED STATES PATENT OFFICE.

LOUIS PEUFAILLIT, OF TUNIS, TUNIS.

PROCESS OF RETTING VEGETABLE FIBERS.

1,034,502.

Specification of Letters Patent.

Patented Aug. 6, 1912.

No Drawing.

Application filed February 24, 1911. Serial No. 610,633.

To all whom it may concern:

Be it known that I, LOUIS PEUFAILLIT, of Quartier Sans Souci, Tunis, Tunis, have invented a new and useful Improvement in Processes of Retting Vegetable Fibers, which invention is fully set forth in the following specification.

The present invention relates to a retting and scouring process and has for its object to utilize the solvent properties of petroleum, which when used in certain conditions, are particularly active on resinous materials or on other gums adhering to the fibers of all vegetables. On the other hand when petroleum is used in the adopted conditions, it has no action on the cellulose and, in all the experiments made by the inventor it has never been found that the fibers had undergone the slightest injury.

The operation is carried out in the following manner: The vegetable to be treated is introduced in an autoclave capable of resisting to a pressure of at least six kilograms in which it is completely immersed in water. A quantity of heavy or rough petroleum or any other hydrocarbid, at least equal to 5% of the weight of the plant is then added. The boiling is carried out at a temperature from 120 to 180° centigrade, according to the fiber to be treated, for two to six hours. These indications may vary according to the nature of the fibers. When the retting is completed, the plant is ready to be further treated as necessary according to the purpose it is intended for. After such treatment it is then suitable to be subjected to a thorough bleaching.

This process has been experimented on various vegetables, such as flax, hemp, jute, *Phormium*, rhea, alfa, vegetable hair, the bark of mulberry and lime trees, etc., and

magnificent, strong and quite uninjured fibers were obtained. It has also been shown by further experiment that it is better in general to use a purely physical solvent such as petroleum or like hydrocarbon and water in the manner described without the use of an alkali or acid solvent, both of which effect a biting action on the fiber. Where long fibers are to be retted, an addition of urine has been found to materially assist the removal of gums and give to the fiber greater pliability. This same process allows for making paper pulps by scouring straw, wood, bamboo, reed grass, malacca cane, vine-shoot, cocoa-fibers, old rags and old bags or sacks, old ropings and the like. Pulps so obtained can be bleached with the greatest facility, which is not always the case with those produced differently. Wool may also be scoured according to the above described process, by introducing the same into the digester.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

The process of retting textile plants capable of being converted into paper pulp or textile fibers, consisting in subjecting said plants in the presence of water and petroleum with urine to the action of heat at a temperature of about 120°-180° centigrade in a closed receptacle to effect separation of resinous and gummy bodies from the fibers of the plants.

In witness whereof I have hereunto set my hand in presence of two witnesses.

LOUIS PEUFAILLIT.

Witnesses:

ARMAND LEBLANC,
GABRIEL BALLIARD.