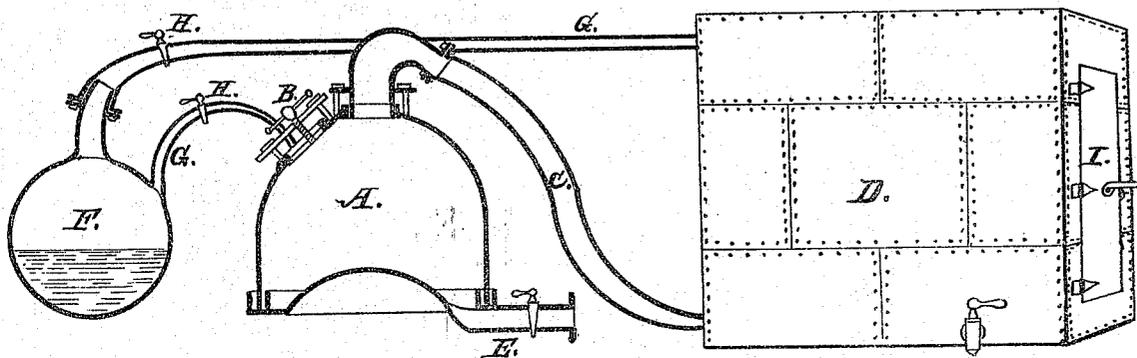


L. S. Robbins & J. A. Southmayd.

Paper Making Process.

N^o 87,432.

Patented Mar. 2, 1869.



Witnesses.

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LOUIS S. ROBBINS, OF NEW YORK, N. Y., AND JOHN A. SOUTHMAYD,
OF ELIZABETH, NEW JERSEY.

Letters Patent No. 87,432, dated March 2, 1869.

IMPROVED PROCESS OF PREPARING BAMBOO-FIBRE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that we, LOUIS S. ROBBINS, of the city, county, and State of New York, and JOHN A. SOUTHMAYD, of the city of Elizabeth, county of Union, and State of New Jersey, have invented a new and useful Improvement in Preparing the Fibre or Lignine of Bamboo, botanically known as *Arundo* and *Bambusa*; and we do hereby declare that the following is a full and clear description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings.

It is well known that bamboo, after having been treated with an acid or alkaline solution, can, by crushing or disintegrating, be brought into a fibrous condition, and, if freed from silicious and gummy matter, without destroying the strength of the fibre, it can then be manufactured and employed in the arts in various ways.

To prepare the lignine of the bamboo in such a manner that the fibre can be more readily and completely separated and freed from its gummy and silicious matter, also, to give it strength and elasticity, and enable the fibres to move easily upon each other during the process of manufacture, is the object of this invention, and this object is accomplished thereby.

The method consists in saturating the lignine of the bamboo, which has been previously prepared, with oleaginous vapors, either separately, or in connection with steam.

When oakum is to be prepared from the bamboo, we treat the lignine, or fibre with the vapor of tar, but when we prepare it for felting and other purposes, we employ such oleaginous materials as may be best adapted to the particular use which is to be made of it.

One form of apparatus for carrying out our improvement is represented in the accompanying plate.

A, in the drawing, represents a retort, made of any desired form or size, in which tar, rosin, or other oleaginous substances and compounds, are placed, and subjected to the action of heat from any suitable furnace.

B represents the man-hole of the retort used in cleaning the same, or changing its contents.

C, a pipe connecting with retort A, at or near its top, passing to and connecting with the chamber or receptacle D.

E represents the discharge-pipe, employed for removing the contents of the retort after the operation is over.

F is a steam-boiler, and

G G, pipes connecting it with the chamber or receptacle D, and the retort A.

H H are cocks for introducing steam into retort A and chamber D, when required.

The lignine of the bamboo is placed in the chamber D, through the door I, which is then closed, and heat applied to the retort A, previously filled with tar, rosin, paraffine, or other oleaginous substances which have been selected for the operation. Oleaginous vapors are generated therein, which pass over out of the same, through connecting-pipe C, into chamber D, containing the lignine.

Heat having been applied to the steam-boiler F, the cocks H H, or either of them, are opened sufficiently to let in a small quantity of steam, which passes into chamber D, and mingles with the oleaginous vapors, while permeating and saturating the lignine contained therein.

This operation is continued until the lignine is thoroughly moistened by the oleaginous and steam vapors before described.

The steam aids, in connection with the oleaginous vapors, in removing the silicious and gummy matter, and imparts to the fibre a desirable degree of moisture, without injuring the strength of it, which would be the case if used by itself.

From the above description, it will be seen that, by treating lignine, or the fibrous portion of bamboo, with oleaginous vapors and steam, we supply the fibre with moisture of such a character, and in such a manner as will give it strength and elasticity, and, by lubricating it, admit of its being separated, not only from the silicious and gummy matter, but one fibre from the other, more completely than has hitherto been done. Moreover, the process is simple, rapid, and economical.

What we claim, and desire to secure by Letters Patent, is—

The saturating of lignine, or the fibre of bamboo, with oleaginous substances and compounds, substantially as herein described.

Also, the saturating of the lignine with oleaginous vapors, in combination with steam, substantially as described.

LOUIS S. ROBBINS.
JOHN A. SOUTHMAYD.

Witnesses:

CHARLES NETTLETON,
M. AHEARNE, Jr.