

UNITED STATES PATENT OFFICE.

JOACHIM BRENNER, OF GAINFARN, AUSTRIA-HUNGARY.

PROCESS OF DYEING WOOD.

SPECIFICATION forming part of Letters Patent No. 755,993, dated March 29, 1904.

Application filed September 19, 1903. Serial No. 173,885. (No specimens.)

To all whom it may concern:

Be it known that I, JOACHIM BRENNER, a subject of the Emperor of Austria-Hungary, residing at Gainfarn, Lower Austria, Austria-Hungary, have invented certain new and useful Improvements in Processes of Preparing Wood for Taking Coloring-Matter, of which the following is a specification.

This invention relates to a process for preparing wood for taking coloring-matter, such as cotton-coloring matters belonging to the group of tar-color—for example, indulin, methylene-blue, alizarin, anilin-black, &c. The invention has for its object to increase the capacity of wood fiber for taking coloring-matters forced by any suitable means into the wood which it is desired to dye. This process has also for its object to increase at the same time the fastness to light of the coloration obtained.

According to this invention, after the wood which it is desired to dye and which may be in the log or may be cut up or otherwise shaped has first had its wood cells opened in the usual way by treating with superheated steam the substance of the cell-walls as such is subjected to a parchmentizing process by means of sulfuric acid, whereby it is altered chemically in such a manner that it acquires the property of absorbing coloring-matters from their solutions with the same avidity and of retaining the said coloring-matters in the form of permanent compounds in the same manner as is the case with animal membranes or fibrous substances, (parchment, sheep's wool, silk.)

In carrying out this process in a practical manner first superheated steam is forced in the ordinary way into the wood, which may be in the log or cut up and which it is desired to dye, for the purpose of opening the wood fibers and loosening the incrusting and resinous substances which envelop the bundles of fibers and which interfere considerably with the affinity of cellulose for coloring-matters.

After this steaming sulfuric acid of 10° to 20° Baumé is forced into the wood, whereby the incrusting and resinous substances which have been loosened already by the aforesaid steaming are entirely destroyed and the cellulose fibers which have been laid bare are parch- mentized—that is to say, the surface of the fibers is so altered that they will now take readily and surely the desired permanent dye fast to light from the coloring-matter subsequently applied to them. After the cellulose fibers have been thus parchmented the sulfuric acid contained in the wood is neutralized, preferably by introducing into the wood a suitable dilute solution of any alkali. The salt produced thereby may be removed by washing or soaking in water. The treated wood is now dyed in the usual manner—that is to say, by forcing into the wood at a part cut across the grain a solution of the desired coloring-matter mixed with suitable mordanting agents, according to the composition of the coloring-matter employed—such as Glauber salt, iron vitriol, acetic acid, chlorid of zinc, copper vitriol, tartar emetic, or cuprammonia in the proportion of five to fifteen per cent. of the solution employed.

I claim—

The herein-described process for preparing wood to increase the receptivity thereof for coloring-matters, consisting in steaming the wood to open the fibers thereof, then forcing sulfuric acid of 10° to 20° Baumé into the wood to parchmendize the open fibers, then neutralizing the sulfuric acid, and then dyeing the wood.

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

JOACHIM BRENNER.

Witnesses:

JOSEF RUBASCH,
ALVESTO S. HOGUE.