

UNITED STATES PATENT OFFICE.

EMILE SUCHER, OF VERSAILLES, FRANCE.

PROCESS OF PRESERVING AND HARDENING WOOD.

1,016,111.

Specification of Letters Patent.

Patented Jan. 30, 1912.

No Drawing.

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To all whom it may concern:

Be it known that I, EMILE SUCHER, a citizen of the French Republic, residing at Versailles, Department of Seine-et-Oise, in France, have invented certain new and useful Improvements Relating to Processes for Hardening and Preserving Wood, of which the following is a specification.

This invention has for its object to provide an improved process for the antiseptic treatment of wood and it consists in immersing the pieces of wood to be treated in a bath of special composition whereby the wood is rendered hard, impervious to moisture, rot-proof and non-inflammable.

According to the present invention the bath which is employed comprises two distinct ingredients, viz: first, an antiseptic substance such for instance as pine or vegetable tar, intended to protect wood against microbes, damp or any decomposing agency, and, secondly, a penetrating and fixing agent principally composed of the soluble constituents of saw-dust and an alkaline carbonate, intended to facilitate the penetration of the antiseptic material into the fibers of the wood during the immersion and to prevent such antiseptic substance from being expelled by variations of temperature or climatic conditions.

In order to prepare the bath in which the wood is immersed, the following mixture is first prepared:

Water	900 parts
Sawdust	80 parts
Sodium carbonate	16 parts
Potassium carbonate	4 parts

This mixture is allowed to stand for 48 hours, during which time the mixture is twice boiled for periods of 4 hours respectively, whereby a solution of the soluble constituents of the saw-dust is formed, after which the solution is decanted off to separate it from any remaining solid material and to this solution 5 per cent. of sodium silicate and $\frac{1}{10}$ per cent. of normal concentrated nitric acid are added. The product thus obtained constitutes the fixing agent referred to above and in order to prepare the

bath this product is added to the antiseptic materials with which it is desired to impregnate the wood. As an example, a mixture of 990 parts of pine or vegetable tar with 5 parts of the fixing agent and 5 parts of sodium carbonate may be employed. In order to insure the preservation of the wood it is sufficient to immerse it in the bath thus formed for a period varying from 4 to 7 hours according to the dimensions of the wood to be treated and the nature of the preservative substance with which it is to be impregnated, the temperature of the bath during the immersion being maintained at between 60° C. and 80° C. according to the amount of moisture contained in the wood. The treating operation is thus extremely simple, the wood being impregnated without the aid of pressure and without requiring special apparatus or previous seasoning.

The process enables wood to be so treated as to render it hard, elastic, impervious to moisture and rot-proof and this process will be found particularly suitable for the preparation of wood paving blocks, railway sleepers, timber for joinery, telegraph poles, etc. It is possible moreover, by varying the proportion of sodium silicate and the period of immersion to obtain a product possessing exactly the required qualities for any particular purpose for which it is intended.

I claim:

The hereindescribed process of hardening and preserving wood which consists in impregnating the wood at one operation with a liquid containing such constituents of saw-dust as are dissolved by the treatment of the saw-dust with a solution of alkaline carbonates, sodium silicate and an antiseptic substance, and allowing the liquid to solidify within the wood.

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

EMILE SUCHER.

Witnesses:

LOUIS YOSSER,
BARTLEY F. YOST.