

UNITED STATES PATENT OFFICE.

SIDNEY B. CHAPMAN, OF SKYLAND, NORTH CAROLINA.

TREATED WOOD AND PROCESS OF PRODUCING THE SAME.

No. 839,551.

Specification of Letters Patent.

Patented Dec. 25, 1906.

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To all whom it may concern:

Be it known that I, SIDNEY B. CHAPMAN, a citizen of the United States, residing at Skyland, in the county of Buncombe and State of North Carolina, have invented certain new and useful Improvements in Treated Wood and Processes of Producing the Same; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in treated wood and to the process of treating the same, and more particularly to wood impregnated with sulfuric acid and the process of such impregnation.

The object in view is the production from relatively cheap timber of lumber having the appearance of high-grade timber; and this object is accomplished by treating a low-grade timber for preventing warping and for altering the appearance thereof.

It is well known to those skilled in the art that sap-lumber, and particularly gum-sap, warps and becomes worthless during seasoning owing to such warping. Further, lumber made from timber of the gum family is of a cheap grade and considered inferior to the higher qualities of lumber. I have discovered that by treating green timber or green lumber, and particularly green gum-sap lumber, with a mixture of water, sulfuric acid, and lead the warping will be prevented and the appearance of the wood will be altered to that of lumber of a higher quality. To secure the best results, the lumber or timber should be treated within a few hours after the tree has been felled, although it is possible to secure some results by such treatment within a few days after the felling of the tree. The treatment of course must occur before the lumber is seasoned, as it is during the seasoning operation that the objectionable warping and deterioration of the wood occurs, and the wood is therefore in a green state when treated, and the term "green" hereinafter employed is intended to indicate any condition of the wood prior to the completion of its seasoning. It is not

absolutely essential that lead enter into the compound employed for the treatment in order to secure some results, and other dilutant than water may be employed, if desired, or it is possible to treat the timber with sulfuric acid, although the best results are obtained by the treating of the timber with sulfuric acid diluted with water, and when so treated the timber does not warp in seasoning, but remains straight and assumes an appearance simulating that of timber of higher quality.

The present process of treating green lumber or timber involves applying a solution of sulfuric acid with some dilutant or sulfuric acid and lead with some dilutant to the green lumber or timber newly severed from the growing state and permitting the solution to impregnate the lumber or timber to a greater or less degree, according to the result desired. By carrying out this process the inevitable result is a treated wood consisting of green lumber impregnated with sulfuric acid or a solution of sulfuric acid and some dilutant or sulfuric acid, lead, and some dilutant, according to which of the elements are employed in carrying out the process.

In carrying out the present process I find that good results may be obtained by mixing three and one-half gallons of sulfuric acid with fifty gallons of water, and this mixture is placed in a vat and the lumber being treated is placed on a lumber-conveyer which passes through the vat. The lumber is permitted to remain in the mixture of sulfuric acid and water until thoroughly saturated, and it is then withdrawn and dried. While good results have been secured by utilizing the proportions suggested and by carrying out the process in the manner stated, it is of course possible to attain good results by using other proportions and carrying out the process in other ways. I therefore wish it clearly understood that, while the foregoing explanation is given so that any one skilled in the art may be fully informed as to how the present process may be carried out, I consider this invention as comprehending any steps involving the subjecting of green wood to the action of sulfuric acid.

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What I claim is—

1. An article of manufacture comprising wood which has been subjected to the action of sulfuric acid while in a green state.
- 5 2. Green wood impregnated with sulfuric acid.
3. A process comprising subjecting green wood to the action of sulfuric acid.

In testimony whereof I affix my signature in presence of two witnesses.

SIDNEY B. CHAPMAN.

Witnesses:

M. H. ATKINS,
R. F. CHAPMAN.