

UNITED STATES PATENT OFFICE.

OCTAVE CHANUTE, OF CHICAGO, ILLINOIS.

PROCESS OF PRESERVING WOOD.

SPECIFICATION forming part of Letters Patent No. 688,932, dated December 17, 1901.

Application filed December 3, 1900. Serial No. 38,550. (No specimens.)

To all whom it may concern:

Be it known that I, OCTAVE CHANUTE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Processes of Preserving Wood; and I do 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.

This invention relates to the preservation of wood; and its object is to facilitate the injection into the wood of the preservatives employed and insure the thorough impregnation of the wood with them.

The invention consists in the process hereinafter set forth whereby solutions of chlorid of zinc, tannin, and glue are injected in the order named, the wood being subjected to a vacuum after the first and second injections in order to remove a portion of the preceding solution to make room for the succeeding one. The three substances employed are old and well known in the art; but they have never before been used, to my knowledge, in the order in which I now employ them.

Heretofore the gelatin or glue has been mixed with the solution of chlorid of zinc and the mixture forced into the wood. The tannin solution was afterward forced in to convert the gelatin into a leatheroid.

I have found in practice that the addition of gelatin to the chlorid-of-zinc solution made the latter less fluid and rather viscid and that the solution therefore did not penetrate as far into the wood nor enter it in proper quantities. By changing the order and injecting the tannin solution next after the chlorid of zinc and the gelatin last I find that the results are much more satisfactory.

The process in detail is as follows: The timber to be treated should be partially seasoned by drying or steaming, as such wood is more

easily heated to a temperature sufficient to drive out the sap than is the case with wood freshly cut. The seasoned wood is then subjected to heat in a vacuum to cause the removal of a portion of the sap. The timber is then immersed in the chlorid of zinc and subjected to a heavy fluid-pressure—say about one hundred pounds to the square inch. At first the timber readily absorbs the chlorid, the process being maintained constant by means of a pump. When at length the timber refuses to absorb any more of the solution, the surplus is drawn off and a second vacuum is created in the chamber containing the timber. I prefer to use a vacuum of about one-half an atmosphere, and it results in some of the solution being expelled from the wood by the air occluded and compressed in the sap-cells. The tannin solution is then forced into the wood until it has penetrated as far as it will go, when the surplus is drawn off, and the vacuum is again established to expel some of the tannin. Finally the glue is forced in, combining with the tannin in the usual manner.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The process of preserving wood, which consists in subjecting it first to a solution of chlorid of zinc, then to a solution of tannin, and finally to a solution of gelatin.

2. The process of preserving wood, which consists in subjecting it first to a solution of chlorid of zinc under pressure, then to a vacuum, then to a solution of tannin under pressure, then to a vacuum, and finally to a solution of gelatin.

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

OCTAVE CHANUTE.

Witnesses:

H. KLOCKENBRINK,
N. A. EMMERTZ.