

UNITED STATES PATENT OFFICE.

HERMANN G. MÜLLER, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO
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PRESERVED WOOD.

SPECIFICATION forming part of Letters Patent No. 236,065, dated December 28, 1880.

Application filed September 20, 1880. (No specimens.)

To all whom it may concern:

Be it known that I, HERMANN G. MÜLLER, of San Francisco, in the county of San Francisco and State of California, have invented certain
5 new and useful Improvements in Preserved Wood, of which the following is a specification.

This invention relates to wood impregnated with chemicals to prevent the decay of the
10 same and render it capable of resisting in a higher degree atmospheric influences and other destructive agencies.

The invention consists in an improved article of preserved wood impregnated with sulphate of baryta and chloride of sodium, being
15 the result of a process of treating the natural wood, first, with a solution of sulphate of soda, and then with a solution of chloride of barium, either after the wood has been exposed to
20 steaming or without steaming the same.

In the methods heretofore employed for preserving wood the chemicals by which the wood has been impregnated have been more or less expensive, so that their application has been
25 necessarily limited.

I have discovered that by the employment of solutions of sulphate of soda and chloride of barium not only a very effective preservative action is exerted upon the wood by the
30 formation of sulphate of baryta in the cellular tissues of the same, but, moreover, that by the presence of the salts of chloride of sodium the wood is protected against fire, it being only charred thereby. The chemicals employed
35 are, furthermore, less expensive than those heretofore used for impregnating purposes, which is a point of great importance, as thereby the application of the process can be greatly extended.

40 In carrying my invention into practice the wood may be first exposed to the action of steam in a closed chamber to drive off the sap, moisture, and other matters. After steaming a vacuum is created in the said chamber by

means of an air-pump. The wood is then
45 charged with a solution of sulphate of soda, about two pounds of the salt being dissolved in about one hundred pounds of water. The surplus liquid is discharged from the chamber and then a solution of chloride of barium
50 forced or charged into the wood. The proportion of chloride of barium is about two-thirds, by weight, of that of the sulphate of soda for one hundred pounds of water.

In treating large timbers—such as piles and
55 pieces for docks, ships, and similar structures—it would be inconvenient to subject them to the action of steam in a chamber. In these cases the solutions are charged, one after the other, by hydrostatic pressure by any approved
60 apparatus devised for this purpose. By the successive treatment of the wood with solutions of sulphate of soda and chloride of barium, with or without steaming, a decomposition of the salts takes place in the tissues of the wood,
65 and the salts of sulphate of baryta and chloride of sodium are deposited therein. These are active agents to resist the decaying influences of the atmosphere, moisture, or parasites. These salts serve not only as preserving agents,
70 but, as they fill the tissues of the wood, as a protection against destruction by fire, as the wood can only be charred, but not be burned with flame.

Having thus described my invention, I claim
75 as new and desire to secure by Letters Patent—

As a new article, preserved wood impregnated with sulphate of baryta and chloride of sodium, substantially as described.
80

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 11th day of September, 1880.

HERMANN G. MÜLLER.

Witnesses:

PAUL GOEPEL,
CARL KARP.