

United States Patent Office.

THOMAS W. CHANDLER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF
AND NICHOLAS DE PEYSTER, OF SAME PLACE.

Letters Patent No. 110,738, dated January 3, 1871.

IMPROVEMENT IN PRESERVING WOODS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS W. CHANDLER, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in the Process of Preserving Wood; and I do hereby declare that the following is a full, clear, and exact description of the same.

The nature of my invention consists in filling the pores after all the sap has been extracted from the green lumber or articles that are cut or manufactured therefrom, by the process hereinafter detailed, with paraffine or wax.

The paraffine or wax, before being applied, is mixed with naphtha, benzine, or other suitable solvent.

The solvents named are preferred, as they can be so readily evaporated by artificial means or exposure to the air, and thus leave the pores of the lumber filled alone with the paraffine or wax, which renders the wood entirely impervious to moisture or the action of the atmosphere.

The solvent may, however, be dispensed with, and the pure paraffine or wax, after the same has been liquefied, may be used.

To enable others skilled in the arts to make and use my invention, I will now proceed to describe its construction and operation.

The green lumber or other article that is cut or manufactured therefrom is first placed in a close vessel or chest and subjected for, say, from three to ten hours to the direct action of steam, the length of time the wood is allowed to remain depending, in a great measure, on the kind and quality of wood under treatment, as it is well known that it is much easier to dissolve and remove the sap from some species of wood than from others.

After the lumber has been thus steamed it is to be thoroughly dried, which may be done by artificial means, or, if preferred, simply by being left exposed to the air.

After it is dry, the lumber or article that is manufactured therefrom is placed in any ordinary vacuum-tank.

The air in the tank being all exhausted, which may be done by any of the ordinary and well-known processes, the paraffine or wax is applied, it being first mixed with naphtha, benzine, or other solvent, or the solvent may be dispensed with and the paraffine or wax directly applied.

When this is done, the paraffine or wax is to be first melted or reduced to a liquid form.

The lumber remains in the tank until it is thoroughly impregnated with the solution, when it is to be removed and freed from the naphtha or benzine, which may be done by artificial means or by direct exposure to the air.

Practical experience, gained by numerous experiments, has fully attested the fact that any wood can be successfully treated by the process and ingredients hereinbefore named.

The pores of the wood are not only filled with the paraffine or wax, which renders it entirely impervious to moisture and all injurious atmospheric action, but all danger of its warping, stretching, or checking is entirely removed.

The black gum, a wood heretofore almost comparatively worthless, when treated by my process has been found most admirably adapted to many useful purposes, especially to the manufacture of the wooden horse-collar or other like articles where a smooth, hard, unyielding surface is required.

I am aware that paraffine and wax have each been heretofore used as a preservative of fabrics, wood, &c., and I am also aware that they have been applied to the article in a vessel from which the air has previously been exhausted; but I am not aware, in the treatment of wood thus to be impregnated, that resort has been had to steaming in order to free the pores of the green wood of all sap.

This is highly advantageous in all, and absolutely essential in the treatment of many species of wood.

Practical experience has fully attested the fact that where steaming is not resorted to, but the wood permitted to season by exposure to the air and sun, it can never be properly impregnated with the paraffine, as this style of seasoning does not extract the sap, but dries it in the pores.

Having thus fully described my invention,

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

Preserving green lumber or articles that are cut or manufactured therefrom by the process herein described, in connection with the ingredients named, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THO. W. CHANDLER.

Witnesses:

EDWIN JAMES,
FREDK. KOONES.