

UNITED STATES PATENT OFFICE.

THOMAS HANVEY, OF ELMA, NEW YORK.

IMPROVEMENT IN PREPARING TIMBER FOR CUTTING INTO VENEERS.

Specification forming part of Letters Patent No. 53,610, dated April 3, 1866.

To all whom it may concern:

Be it known that I, THOMAS HANVEY, of the town of Elma, county of Erie, and State of New York, have invented or discovered a new and improved process of preparing logs of wood or blocks of timber for slicing or cutting into boards, veneers, plank, thin slabs, staves, hoops, and the like; and I do hereby declare that the following is a full and exact description thereof.

The nature of this invention relates to the treatment of logs of wood and large blocks of timber by steam-boiling in water for six hours, more or less, whereby the wood becomes saturated thoroughly with water made hot by steam, and thereby softened and rendered in the best condition possible for slicing or cutting into boards, veneers, slabs, hoops, staves, and the like by suitable cutting or wood-slicing machines.

To enable others skilled in the art to which my invention appertains to practice and use my improvements, I will fully describe the same.

I am aware that sawed and rived bolts of wood and other small pieces of timber have heretofore been subjected to a process of steaming for various purposes. I am also aware that large ship-timbers have been steamed preparatory to bending, and I accordingly disclaim such processes, as they do not come within the scope or purpose of my invention.

It is well known to lumber-dealers and others that the best quality of timber has become scarce and difficult to obtain in some parts of this country, and every year it becomes more and more scarce and difficult to obtain, and hence it is a necessity and a desideratum to economize its use and prevent waste, and also to devise means by which inferior qualities may be worked, applied, and used for the various purposes of art and commercial life; and for these purposes I construct a large tank or vat of wood or metal, which will hold many hogsheads of water, and this tank or vat, for convenience, I place in the ground near a steam boiler and engine, and within or contiguous to a manufactory for cutting or slicing boards, &c., by machinery, the top thereof rising a little above the ground or floor of the building, so that logs of wood may be easily rolled into it, the vat to be closely covered with plank, or

otherwise, when the logs are put in and the steam-boiling commenced.

Logs or sticks of timber of full size are drawn into the yards contiguous to the manufactory, and then sawed into such lengths as may be desired for the various purposes for which the boards or slices to be cut therefrom are to be used, and these logs at full size are put into this tank of water so that they will float or be completely immersed therein. This tank or vat is connected by suitable steam-pipes with the steam-boiler, and also with the exhaust-steam pipe, so that the exhaust-steam may be used for heating the water when the engine is running, and so that steam may be used directly from the boiler when the engine is not working.

As a matter of economy the exhaust-steam will always be used when the engine is running; but it may often occur that the boiling will be required when the engine is not running, and in such case I provide for using the steam directly from the boiler, as aforesaid.

The logs or blocks of wood (full size) being immersed or floating in the tank of water, as aforesaid, become, by this process of boiling, thoroughly saturated with the hot water, and the pores of the wood become expanded and filled, and the fiber softened and made elastic.

The juices of the wood, which are supposed to be the cause of decay, are all decomposed or washed away by this process, and it has all and more of the efficacy of water-seasoning.

The boiling does not scorch or render brittle the wood fiber like steam, but it permeates, softens, and expands the whole mass of wood, so that it may be cut or sliced by proper machines without straining or injuring the fiber.

The whole log may be sliced up without waste and without any previous longitudinal sawing or splitting.

This process of boiling in water in a closed tank by steam heat is more effective than the simple process of steaming, and is not injurious to the wood; and it is also more effective than simply boiling in an open vessel by a wood or coal fire. It secures the double effect of steam-boiling, which is less expensive in practice, and prepares the wood to a better condition for slicing into boards than the process of steaming. It also enables me to render serviceable an inferior quality of timber

which could not be used if not subjected to this process. It so softens the logs that they may be sliced into the thinnest veneers or into boards of any thickness from one-eighth of an inch to one inch, or into plank.

I have in use, in connection with this preparing process, slicing-machines so constructed that the same machine may be adjusted to cut a thin or thick board or plank. This process also enables me to use a quality of timber which can neither be sawed into boards nor split into staves. It is comparatively without expense, for the reason that I use the exhaust or waste steam from the engine for boiling the water.

This process also has the effect to season the

timber, so that when the water is dried or pressed out the timber will not afterward materially shrink, and it also has such an effect that the boards made therefrom will not materially warp.

What I claim as my invention, and desire to secure by Letters Patent, is—

Preparing logs or blocks of wood for cutting or slicing into boards, veneers, and the like by the process of steam-boiling in tanks or vats of water, substantially as herein described.

THOS. HANVEY.

Witnesses:

M. B. MOORE,

E. B. FORBUSH.