

UNITED STATES PATENT OFFICE.

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PROCESS OF PRESERVING WOOD FROM DECAY AND FIRE.

1,062,286.

Specification of Letters Patent.

Patented May 20, 1913.

No Drawing.

Application filed November 14, 1912. Serial No. 731,339.

To all whom it may concern:

Be it known that I, HENRY JAMES LIVINGSTON, a British subject, residing at 501 Phoenix Building, Baltimore, Maryland, have invented a new and useful Process of Preserving Wood from Decay and Fire.

My invention relates to the protection of wood from the destructive action of weather exposure or from the humus of the ground and from fire. I attain this object by first submerging the wood in a strong solution of common salt, say water containing about 5% to 7% of the latter. This liquid is first heated to the boiling point, and the wood to be treated is submerged in it and allowed to cool gradually for about 24 hours by which time it is sufficiently impregnated to destroy the sap and cellulose matter of the wood pores. The above initial treatment may be applied as soon as the wood is cut, but in that case allowance must be made for the water it contains and salt allowed for in proportion. After the saline liquid has been drawn off, the wood is to be slowly and thoroughly dried and kept protected from the weather until required for further treatment. The wood is now difficult to ignite, I therefore, coat it with any inexpensive inflammable material and apply flame so as to ignite the surface and combine thereby the exuding salt, the igneous coating and the surface of the wood. I do not require destructive charring as is used when charring alone is depended on but the contour of the wood is unaltered in my process. The wood is next coated with a cementitious compound consisting of equal parts of any suitable inexpensive or waste material mixed with as much tar as will enable the same to be applied to the surface with a brush. When this is nearly dry a mixture of the same factors only plastic or nearly so is applied with a trowel and pressure to all rents or voids in the wood, more particularly in the ends. To expedite the drying of the wood I apply

the above factors without the tar to any parts requiring their aid for drying. This mixture may be either applied with a brush or troweled with pressure, or merely dusted on as required.

The advantages of my process are reduction in cost of materials and outfit, its application at any time after cutting and the very small amount of plant required, and the latter can readily and cheaply be moved from one point to another, also that the wood impregnated as described is incombustible.

I claim:

1. The process of preserving wood from decay which consists in first impregnating it with a heated strong saline solution, drying it, coating it with any suitable inflammable material, igniting it and continuing the application of flame until the incipient combustion of the surface takes place, then applying with a brush a mixture of waste gas-house lime and fine ashes in equal parts and coal tar to its entire surface, and finally filling up the end pores of the wood and any shakes or rents with a plastic mixture of the last named ingredients.

2. The process of preserving wood which comprises first, impregnating with a fireproofing saline solution, then coating with a combustible material, then igniting the said material, whereby the wood, the unburnt portion of the combustible material, and the exuding fireproofing salt unite to give a protective coating.

3. The described process of rendering wood incombustible which consists in impregnating it with a strong hot, solution of common salt in which it is submerged and allowed to cool slowly until it is thoroughly impregnated.

H. J. LIVINGSTON.

Witnesses:

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