J. L. FETTERMAN.

METHOD OF SEASONING WOOD.

APPLICATION FILED MAY 18, 1910.

990,246. Patented Apr. 25, 1911.

2 SHEETS—SHEET 1.

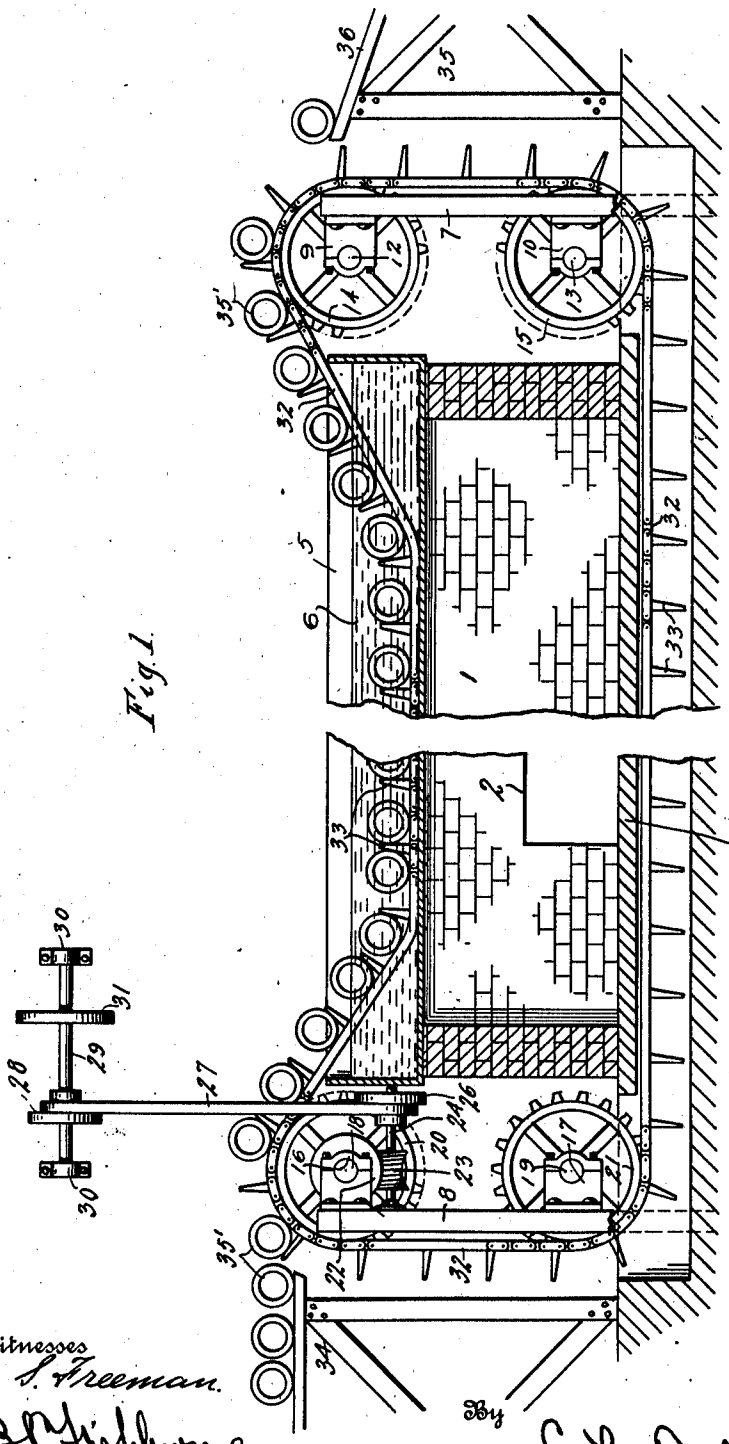


Fig. 1.

Witnesses

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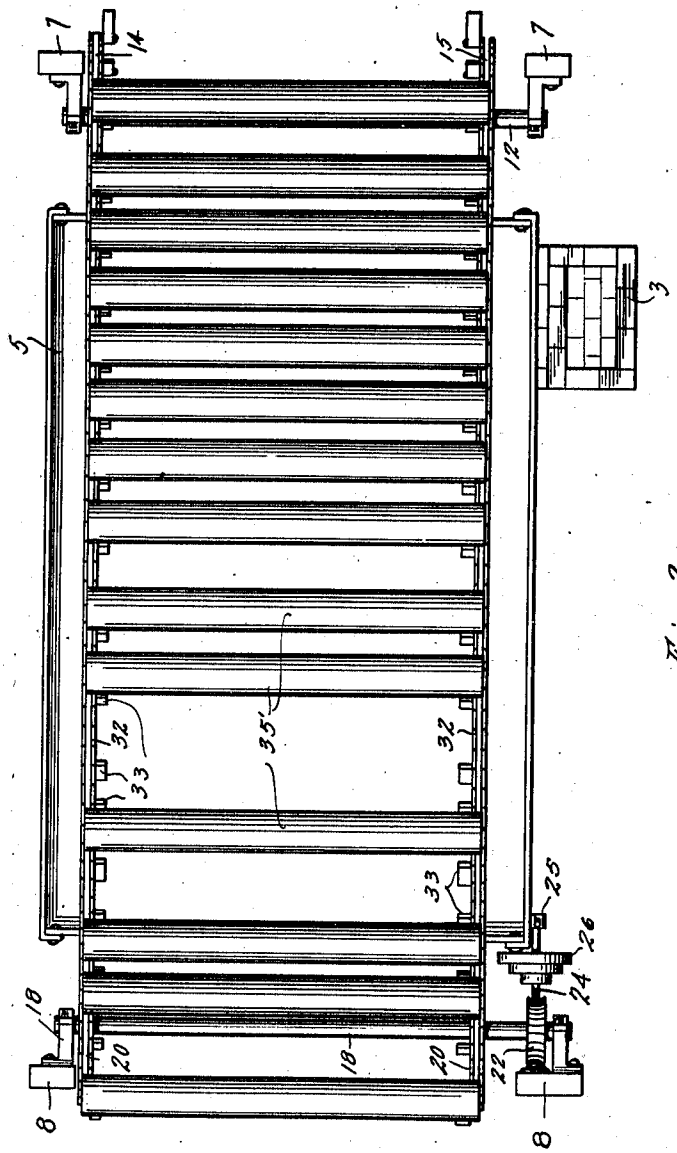


Fig. 2.

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UNITED STATES PATENT OFFICE.

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METHOD OF SEASONING WOOD.

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To all whom it may concern:

Be it known that I, JOHN L. FETTERMAN, a citizen of the United States, residing at Ittabena, in the county of Leflore and State of Mississippi, have invented certain new and useful Improvements in Methods of Seasoning Wood, of which the following is a specification.

My invention relates to a method of drying or seasoning wood.

An important object of this invention is to provide a method of the above character, which may be carried out expeditiously and continuously.

In the seasoning of green lumber or wood, the same is generally placed in dry kiln, and there subjected to heat until the same is dried. It generally takes about three weeks to season lumber by placing the same in a dry kiln. I have found, that green lumber may be seasoned or dried by subjecting the same to a bath of heated paraffin wax or analogous substances such as mineral oils. The paraffin or oil is first heated to about 212 degrees F. or a little more, and the lumber deposited within the same. The water and sap is driven out of the green lumber by evaporation, whereby the same is dried. The paraffin is then heated or raised in temperature to about 250 degrees F., which prevents very much of the same from entering the pores of the lumber. I have found that green lumber may be thoroughly seasoned or dried, by the employment of my process within about sixty minutes.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a side view of an apparatus, by the employment of which my method may be carried out. Fig. 2 is a top plan view of the same.

In the drawings, the numeral 1 designates a furnace formed of brick or the like, and provided upon one side with a door 2, and upon the opposite side with a stack 3. This furnace is shown as being disposed upon a suitable foundation 4, which may be formed of concrete. Upon the upper end of the furnace 1 is disposed a tank or trough 5, which is shown as being rectangular. This trough may preferably be formed of sheet metal or other suitable material. The trough 5 is formed open as shown, and contains the drying medium 6, which may be paraffin wax, or any mineral oil. Near and spaced away from the ends of the furnace 1, are transversely alined vertically disposed standards 7 and 8. The standards 7 are provided upon their inner side, near their upper and lower ends, with bearings 9 and 10 respectively, through which are journaled upper and lower horizontally disposed shafts 12 and 13. Upon the shafts 12 and 13 are rigidly mounted pairs of spaced sprocket wheels 14 and 15, respectively. The standards 8 are provided upon their inner sides, and near the upper and lower ends thereof, with bearings 16 and 17, through which are respectively journaled horizontally disposed shafts 18 and 19. The shafts 18 and 19 are preferably disposed in horizontal alinement with the shafts 12 and 13 respectively. The shafts 18 and 19 have pairs of sprocket wheels 20 and 21 respectively, rigidly mounted upon the same. The pairs of sprocket wheels 20 and 21 are spaced to correspond to the arrangement of the sprocket wheels 14 and 15. The shaft 18 is provided near its left end with a worm wheel 22, which is rigidly mounted upon the same and disposed to mesh with a worm wheel 23 disposed upon and rigidly connected to a driven shaft 24. The driven shaft 24 is journaled through the upper end of one of the standards 8 and through the upper end of a standard 25, as clearly illustrated in Fig. 1. The shaft 24 is provided adjacent its inner end with a step pulley 26, rigidly secured to the same, and about which is trained a belt 27 in engagement with a step pulley 28. The step pulley 28 is rigidly mounted upon a driving shaft 29, which is journaled through bearings 30, as shown. The driving shaft 29 is provided with a pulley 31, whereby the same may be actuated by means of a belt connected to a suitable motor or the like (not shown).

Pairs of endless sprocket chains 32 are provided, which are trained about the sprocket wheels 14, 15, 20 and 21, as shown. The sprocket chains are to be formed sufficiently slack, so that the same when traveling across the trough 5, will engage the bottom of the same, as clearly illustrated in Fig. 1, it being understood, of course, that the chains 32 are sufficiently flexible. Each of the chains 32 is provided at spaced intervals with outwardly extending fingers 33, as shown. The endless chains 32 have their upper portions operating through the tank 5 in a manner above stated, while their lower

portions operate through suitable openings formed below the foundation 4, as shown. The furnace 1 is in effect, disposed within the endless chains 32. At the left end of the furnace 1, is arranged a table 34, to hold the material to be treated. At the opposite end of the furnace is arranged a table 35, having an inclined top 36, to receive and carry away the material after passing through the trough 5.

I will now proceed to describe my method, in connection with the apparatus above referred to. I will describe my method as employed to season hollow wooden columns, but it is to be understood, of course, that the same is in no sense restricted to this use alone. The endless chains 32 are being driven at a proper speed and in a direction to the right, as indicated by the arrow. A fire is made within the furnace 1 and the temperature of the paraffin wax is raised to about 250 degrees F. Each of the columns 35 is placed between the fingers 33 and accordingly made to travel through the paraffin wax. As the columns 35 which are green, and cold, are continuously introduced within one end of the trough 5, the temperature of the solution therein is reduced near that end, and I have found that said temperature is reduced from 250 degrees F. to about 212 degrees F. Each of the columns 35 are then drawn slowly through the molten paraffin wax, whereby the same is dried, that is, deprived of its water and sap. It is obvious that the paraffin wax cannot soak into the pores of these columns, while the same are being dried, on account of the water being evaporated therefrom. When each of the columns 35 has been dried, which takes about 60 minutes, the same will have traveled through the solution in the trough 5 and is disposed near the right end of the trough. Near this right end, the paraffin wax is kept at a temperature of 250 degrees F. and on account of this high temperature, very little of said paraffin will soak into the pores of the column. As above stated, it takes about sixty minutes to thoroughly dry or season a column, and it is to be understood that the trough 5 is to be formed sufficiently long, and the chains 32 to be driven sufficiently slow, whereby the columns 35 will be subjected to the action of the paraffin wax for about sixty minutes.

It is to be understood that the form of my invention herewith shown and described, is to be taken as a preferred example of the same, and that certain changes may be made or resorted to, without departing from the spirit of my invention, as set forth in the annexed claims.

Having fully described my invention, I claim:—

1. The herein described method of seasoning green woody material, which consists in introducing such material into a portion of a mass of molten paraffin wax, said portion having a temperature below 212° F., moving the said material through said mass of paraffin wax into another portion thereof which has a temperature above 212° F., and removing said material from said molten mass of paraffin wax.

2. The herein described method of seasoning green woody material, which consists in introducing such material into one end portion of a mass of paraffin wax having a temperature of 212° F., moving said material through said mass into another end portion thereof having a temperature of 250° F., and removing such material from the last named end portion of said mass of paraffin wax.

3. The herein described method of seasoning green woody material, which consists in heating a mass of paraffin wax to substantially 250° F., introducing in successive order a plurality of members of such woody material into one end portion of said mass, whereby the temperature of said end portion is reduced to substantially 212° F., slowly moving said members through said mass into the opposite end portion thereof, said second named end portion having a temperature of substantially 250° F., whereby said members are dried and the paraffin wax prevented from entering the pores of the same on account of having the said temperature of 250° F., and removing said members from the last named end portion of said mass.

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

JOHN L. FETTERMAN.

Witnesses:
J. W. BRADFORD,
J. C. BRADFORD.