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PROCESS FOR TREATING WOOD BLOCKS FOR SUCTION BOX COVERS AND THE LIKE

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1 Claim. (Cl. 117—149)

My present invention relates to improvements in a process for treating wood blocks for suction box covers and the like.

The invention contemplates the wax impregnation of short lengths of wood; such for instance as used in my end-of-grain suction box covers disclosed in United States Patent #1,977,352 granted October 16, 1934; as this has been found to facilitate the finishing of the blocks, reduce the quantity and retard the rate of absorption of moisture, enabling the better control of swelling without greatly varying the degree and thus obviate the likelihood of end checking, prevent grit and/or other foreign particles from lodging in end-of-grain of the blocks, provide a smooth wax-filled wearing surface, and greatly harden the same.

A further object of the invention is to provide a process for wax impregnating wood blocks adapted to afford complete impregnation in the least time. To this end the cells are exhausted and then the liquified wax, such as an admixture containing a normally hard paraffin, caused to enter the emptied cavities of the fibres; a miscible, plasticity-increasing agent being mixed with the wax to increase its penetration, which later washing out leaves a harder wax filling than could easily be so completely absorbed alone.

To the accomplishment of these and related objects as will become apparent as the description proceeds, the invention resides in the waxed block and process of impregnating as shall be hereinafter more fully described and set forth in the appended claim.

In wax impregnating wood blocks for my end-of-grain suction box covers I have found a hard paraffin wax especially desirable as it seems the most stable, remaining in the wood for the useful life thereof; resists the accumulation of sediment such as sand and/or grit particles from the grinding wheels that are carried in the stock and has excellent wearing qualities of itself besides hardening the wood surface to double or treble its normal hardness.

Other oils and fats, whether mineral, vegetable or animal that have been tried have been found unsuitable in at least one of these requisites; of the latter, for instance, tallow which has been used is too soft and apart from possessing any toxic preservative qualities might even support bacterial growth, or release tannic acid that attacks the expensive fourdrinier copper wires.

To obtain the most complete impregnation I first admix this very hard paraffin wax with a miscible, plasticity increasing agent such as lanolin these two substances being in the proportions of 100 to ½–10 or conversely ½% to 10% of lanolin is added to the wax. These ingredients are liquified and thoroughly admixed.

The treatment of waxing consists of two stages, first the short lengths of wood, which are cut in blocks of about two inches longitudinally of the grain, are subject to a reduced pressure of approximately 20–26 mms. of mercury to remove the air and moisture from the cell interior and then the hot liquified wax and lanolin solution is caused to enter the emptied cavities of the fibres. The simplest effective way of doing this is to heat the short length wood blocks and the wax-lanolin mixture in a double boiler suction tank where water in a surrounding jacket is kept at boiling and the pressure is reduced to the forementioned figure for a period of approximately two hours. Due to the short length of these end-of-grain blocks and the lanolin-increased plasticity of the wax a reasonably complete impregnation occurs in this time.

The pressure in the tank is then raised to normal and the blocks removed and lined up touching end-to-end to cool and harden. They are then immersed in water for ten days to soak or this period may be curtailed to 2–3 days if a presoaking for approximately three hours is first given under reduced pressure.

The blocks are now ready to be finished, squared, shaped, bored and the top of the bores countersunk which latter is desirable where the end-of-grain surface is exposed to the running wire. The finished blocks should be kept soaking until installed for use.

While from the foregoing description it will be apparent that an improved process for treating short length wood blocks is provided that is at once simple and effective, fulfilling all the necessary requirements thereof, I desire it to be understood that such changes may be made in the proceeding description and/or process, without departing from the spirit of the invention, as may fairly fall within the scope of the appended claim.

Having thus described the invention, what I claim as new is:

A process of treating suction box cover wood blocks which consists in removing the air and moisture from the cell interior of the wood by subjecting the blocks to reduced pressure, immersing such blocks in a molten mixture consisting of lanolin and a normally very hard paraffin wax, the percentage of lanolin being from substantially ½% to substantially 10% based on the quantity of wax, heating to 212° F. and at a reduced pressure of 20–26 mms. of mercury for approximately two hours, raising the pressure to normal, removing the blocks from the mixture and cooling.

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