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WOOD SEASONING PLANTS

Filed June 19, 1959

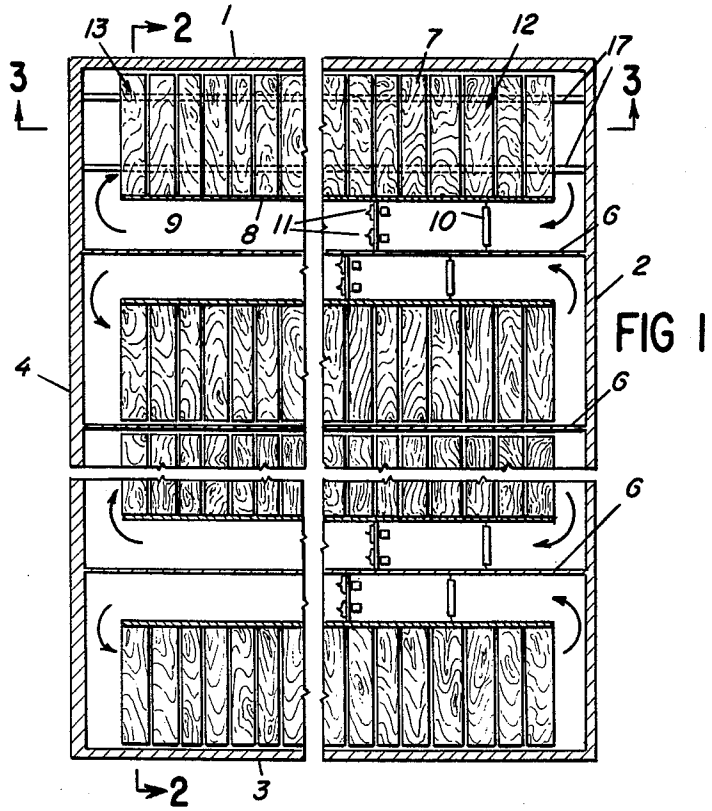


FIG 1

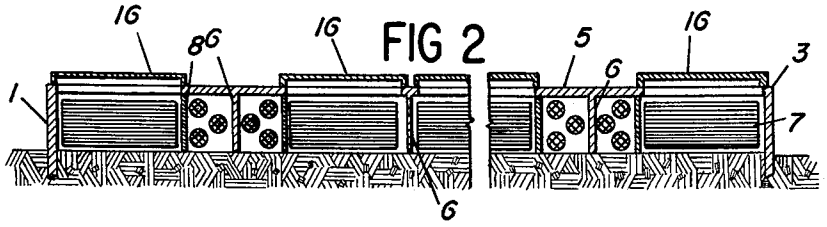


FIG 2

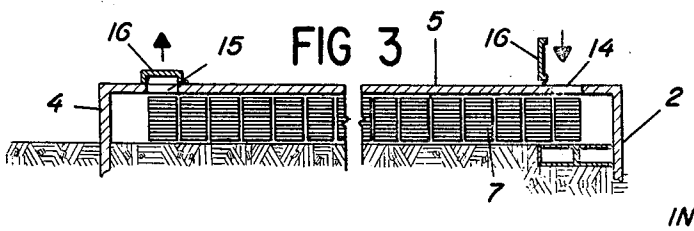


FIG 3

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WOOD SEASONING PLANTS

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The present invention relates to improvements in a wood seasoning plant of the type operating with heated air and in which the wood, suitably in the form of bundles, is introduced at one end of the plant and is moved by a conveyor to the other end thereof, where it is withdrawn.

One main characterizing feature of the invention comprises closable openings for the introduction and withdrawal of the wood into and from the seasoning plant, respectively, which are provided in the roof of the plant.

The invention will now be elucidated with reference to the accompanying drawing, in which:

FIG. 1 is a diagrammatic plan view of one constructional form of the wood seasoning plant;

FIG. 2 is a vertical section taken along the line **2—2** in FIG. 1;

FIG. 3 is a vertical section taken along the line **3—3** in FIG. 1.

In the case illustrated, the wood seasoning plant comprises a rectangular shed having lateral walls **1**, **2**, **3** and **4** and a roof **5**. The interior of the shed is divided up by partitions **6** into several drying compartments. Each drying compartment contains means known per se serving for conveying wood bundles **7** from one end of the compartment to the other end. The conveying means may be in the form, for example, of wood-bundle receiving carriages, or trucks, moving along rails **17** within the drying compartment, or of a belt conveyor or the like.

The drying of the wood is performed by means of heated air which is caused to circulate through each drying compartment. From this moisture-loaded air a certain proportion, in a well-known manner, is withdrawn continually to be utilized for pre-heating replacement air which is introduced into the drying compartment.

The air circulates through each drying compartment, in a direction opposite to that of the wood movement, from the tunnel through which the wood bundles **7** move and which is bounded by an interior wall or partition **8**, and into a passageway **9** containing heaters **10** (such as radiators) and fans **11**, and thence back into the drying tunnel. In order to enable the flow of air to circulate, the partitions or walls **8** do not extend as far as the walls of the shed but terminate in a suitably spaced relation thereto. Free spaces **12** and **13** are provided at the ends of each drying tunnel as necessary for the introduction and withdrawal of the wood bundles, which operations are performed, in accordance with the invention, through openings **14** and **15** in the roof **5** of the shed. These openings may be closed by suitable covers **16** which may be hinged, for example.

Where, as in the case here illustrated, the shed is divided into several drying compartments, it is suitable to arrange the whole assembly in such a way that the lateral passageways **9** associated with two adjacent drying compartments are disposed close to each other on either side of one common partition **6**. In this way, the favorable result is gained that the controls and the regulating means for the heaters **10** and fans **11** of two such drying compartments may be disposed at one common locality, thus providing for a certain degree of simplification. By arranging the passageways **9** laterally of the actual drying tunnels or conveyance paths for the wood, the additional

result is attained that the height of the seasoning plant is minimized, which is of importance in connection with the proposed introduction and withdrawal of the wood bundles **7** by hoisting gear.

By the arrangement of a wood seasoning plant as described, a series of important advantages are obtained. The openings in the roof for handling the wood bundles **7** involve the possibility of introducing and withdrawing the bundles by the use of any suitable hoisting gear, such as an overhead traversing crane, and placing the same anywhere outside the seasoning plant. Thus, in contrast to previously known seasoning plants of the kind specified, the arrangement is not confined to the use of railway tracks for the external handling.

It is of no importance where the ground level is situated. Thus it may be lower at one side of the shed and higher at the other side thereof. Incidentally, it may even be situated throughout at the roof-level of the shed, i.e. so that the shed is entirely buried in the ground and good heat insulating characteristics will be obtained without any extra cost, as well as enabling the roof to serve as a support for other auxiliaries, as necessary.

The provision of the feed and discharge ports **14** and **15** for the wood bundles in the shed roof enables the use of closure members in the form of hinged covers **16** which are adapted in their lowered position to seal the roof openings by gravity, thus avoiding any need for special hand-operated eccentric locking devices or the like.

In the course of wood bundles being introduced into, or withdrawn from, any one of the drying compartments, the drying or seasoning process will not in any way be disturbed in the remaining compartments of the shed, since all the compartments are completely separated from one another.

The spaces designated by **12** and **13**, of course, are effectively utilized for drying wood except during the very periods when a wood bundle is being introduced into, or removed from the seasoning plant.

It is only the very principles of the invention which have been described hereinbefore, and it is obvious to those skilled in the art that many variations as regards its details may be made within the scope of the appended claims.

What I claim is:

1. A wood-seasoning plant confined by a shed having vertical walls and a substantially horizontal roof for treating wood suitably in the form of bundles by means of heated air, said plant comprising a number of conveyors extending parallelly from one end of said shed to the other end, the roof being provided with an opening therein above one end of each of said conveyors for enabling lowering said bundles vertically onto the respective conveyor and with another opening in the roof above the other end of each of said conveyors for enabling lifting said bundles vertically from the respective conveyor so as to allow operation of the plant without access to said vertical walls, said openings being provided with closable doors open only upon loading or unloading respectively, and vertical partitions arranged delimiting adjacent conveyor sections and air channel sections and provided with heating means and fan means for feeding heated air to the adjacent conveyor section, said air channel sections having a structural height not exceeding the height of said conveyor sections and being in horizontal register with the latter so as to obtain a minimum structural height of the plant.

2. A device for seasoning and drying wood comprising a shed having side walls and a substantially horizontal roof, partitions within said shed dividing the same into a plurality of compartments, a wall within each compartment dividing it into a drying tunnel and a hori-

zontally lateral, contiguous and parallel passageway communicating with the drying tunnel at both ends, conveyor means within each drying tunnel for moving bundles of wood to be treated from one end thereof to the other end, the roof being provided with a closable opening at each end of each drying tunnel, through one of which openings the wood bundles are introduced into the corresponding tunnel and through the other of which openings the wood bundles are withdrawn, means within each lateral passageway for circulating air through the corresponding tunnel in a direction opposite to the direction of travel of the wood bundles through said tunnel, and heating means within each pasageway for heating the circulating air.

3. A device as claimed in claim 2 in which the openings in the roof of the shed are provided with hinged cover means for providing sealing closures by gravity when in their lowered position.

4. A device as claimed in claim 2, wherein said conveyor means comprises a track provided in each tunnel and carriages supported on said track upon which the bundles of wood are moved through the tunnel, said carriages being introduced into and removed from the tunnels through the closable openings in the roof of the shed.

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