TREE BUNDLE CONVEYOR

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When the production of tree planting stock for the Northwest Oregon District was transferred from the Corvallis Nursery to the Elkton Nursery, the round trip was increased from 120 to 380 miles. New problems in time and handling resulted. A refrigerated truck, which could hold 300 M seedlings, was purchased so the trees could be kept cool. The trees are left in the truck overnight and are transferred into the tree storage houses the next day.

The trip from Forest Grove to Elkton and back requires approximately 8 hours of driving, and about 2 more hours were required to load trees from storage onto the truck. Russell Powers, Senior Forester in the Northwest Oregon District, made several trips with the tree truck and felt that the loading operation could be shortened considerably, thereby reducing the overtime. He discussed the problem with others, and several types of conveyors were investigated. The single-chain type of

baled hay conveyor seemed best, so one was purchased and modified for use with tree bundles (fig. 1). Sheet metal was installed on the conveyor to prevent the ends of the bundles from falling through the open framework and damaging the tree tops. A piece of oakflooring was installed on each side of the channel iron that guides the feed chain to prevent the edge of the channel from cutting the bundle ties. The feed links on the chain were spaced 40 inches apart to prevent damage to the bundle wrappers. A reversible one-half h.p. electric motor was installed on the conveyor, and guards were installed over the moving parts.

Use of this conveyor reduced the loading time from 2 hours to 45 minutes. It also cut the unloading time considerably. The reversing switch is used to change the direction of the conveyor rather than to turn it around so that the motor and controls are always on the outside of the truck. In addition to reducing the loading and unloading time, the conveyor causes less damage to the tree tops than manual loading (fig. 2).

The following materials, which cost a total of $150 to $170, were used.

1. Single-chain baled hay conveyor.
2. One-half h.p. electric motor with off-on switch and reversing switch.
3. Galvanized sheet metal for bed of con veyor.
4. Oak flooring to prevent edge of chain guide from cutting ties.
5. Stove bolts to fasten oak flooring.
6. Strap iron to fasten galvanized iron to frame.
7. Angle iron to fasten galvanized iron to frame.
8. Sheet metal screws to install sheet gal vanized metal.

A cross section of the conveyor is shown in figure 3.

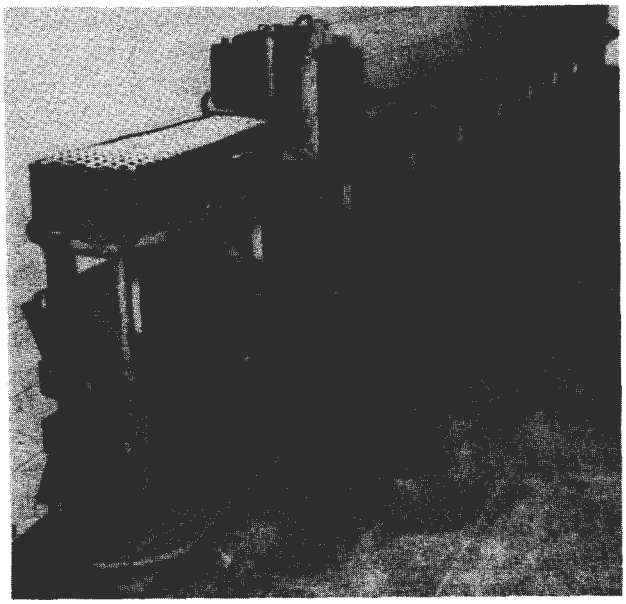

Figure 1.--Underside view of the tree bundle conveyor.

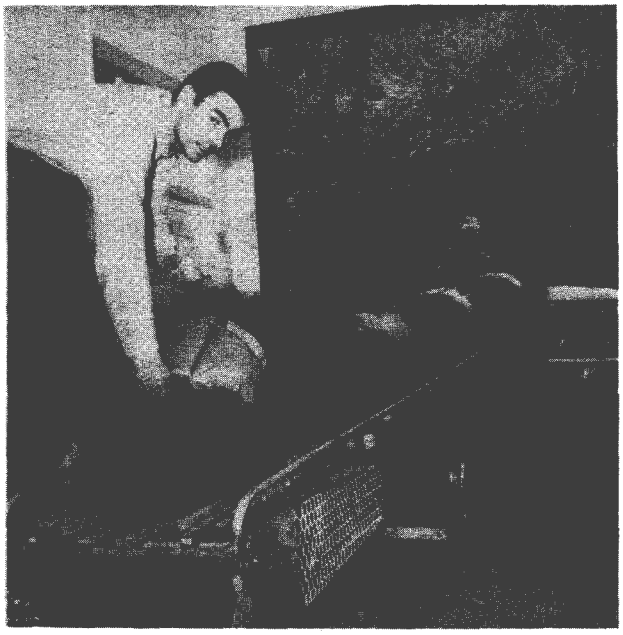

Figure 2.--Tree bundle conveyor in operation.

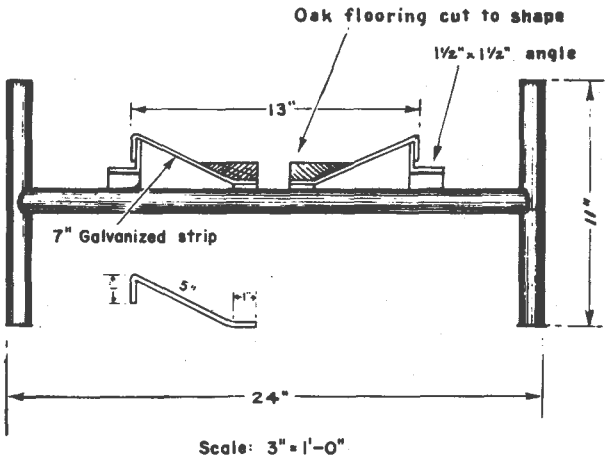

Figure 3.--Cross section of baled hay conveyor modified for use with tree bundles.