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FOREST PRODUCTS LABORATORY † FOREST SERVICE
U. S. DEPARTMENT OF AGRICULTURE

SMALL SAWMILL IMPROVEMENT
PRACTICAL POINTERS TO FIELD AGENCIES

PLANS FOR SMALL MILL LUMBER TREATING EQUIPMENT

Variations of an elementary type of tank (.49222)* involving hand dipping are used where frequent moves dictate very portable equipment. Herewith are specifications for treating equipment eliminating hand dipping.

The gravity dip tank (fig. 1) in the plan shown is placed alongside the rolls and immediately beyond the swing trim saw. The trim saw operator tips to the inclined skids the boards to be dipped. The slope and length adjustment of the 1-1/2-inch pipe skids are such that the weight of the boards being tipped off the rolls pushes the other ones through the liquid to the discharging side. Normally excess liquid drains off the board and into the tank as the board emerges and before it drops to the skids at the discharging side. This equipment permits dipping 2M board feet per hour.

The conveyor chain dip tank (fig. 2) is usually placed so that the lumber, after trimming, is conveyed through the tank and thence to the sorter chain. Power for driving the conveyor chains applied to the sprockets on the shaft at the entering side of the tank and the rider wheels insure submergence of the chain and conveyed material. Strap iron 3 inches wide fastened to the tank under the chains prevents excessive wear and the angle iron section serves to guide the chain. The chain has no lugs. The tank is floored with a double layer of 1 by 6 tongue-and-groove material staggered as shown (fig. 2, B). The rider wheels (iron pulleys) hinge on a frame supported above the tank. The least waste in liquid results when the speed of the chain is the minimum required to move production, and 30 feet per minute is suggested for mills with a capacity up to 2M board feet per hour. For higher speeds, the length of the 10-foot section (fig. 2, B) should be increased. Approximately 130 gallons of liquid will suffice to keep the dip to the level shown, and the tank should have outlets permitting drainage and cleaning. A mixing tank of at least 50 gallons capacity and a shelter over all complete the equipment.

(Contributed by C. J. Telford, Forest Products Laboratory. Reviewed and reaffirmed September 1953)

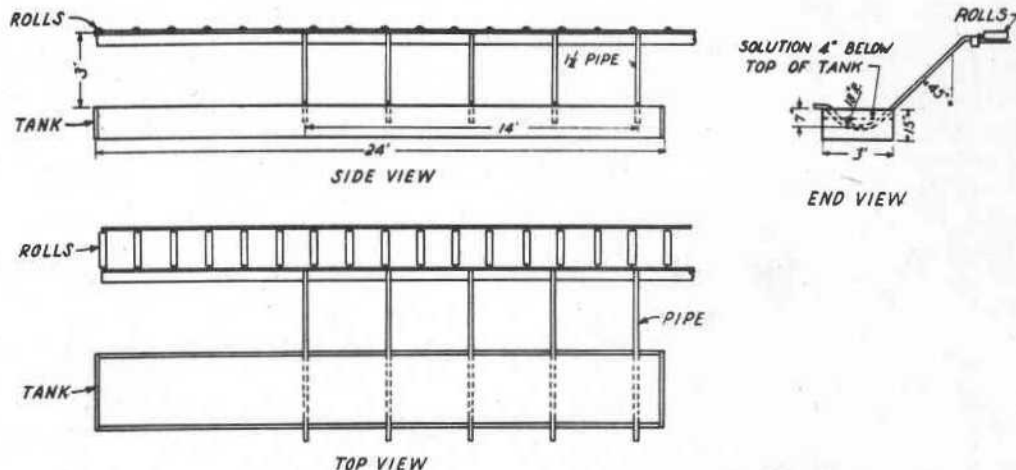


FIG. 1
GRAVITY DIP TANK

†Maintained at Madison, Wisconsin in cooperation with the University of Wisconsin.

*See outline in Small Sawmill Improvement Working Plan, March 1930, for explanation of indexing system proposed.

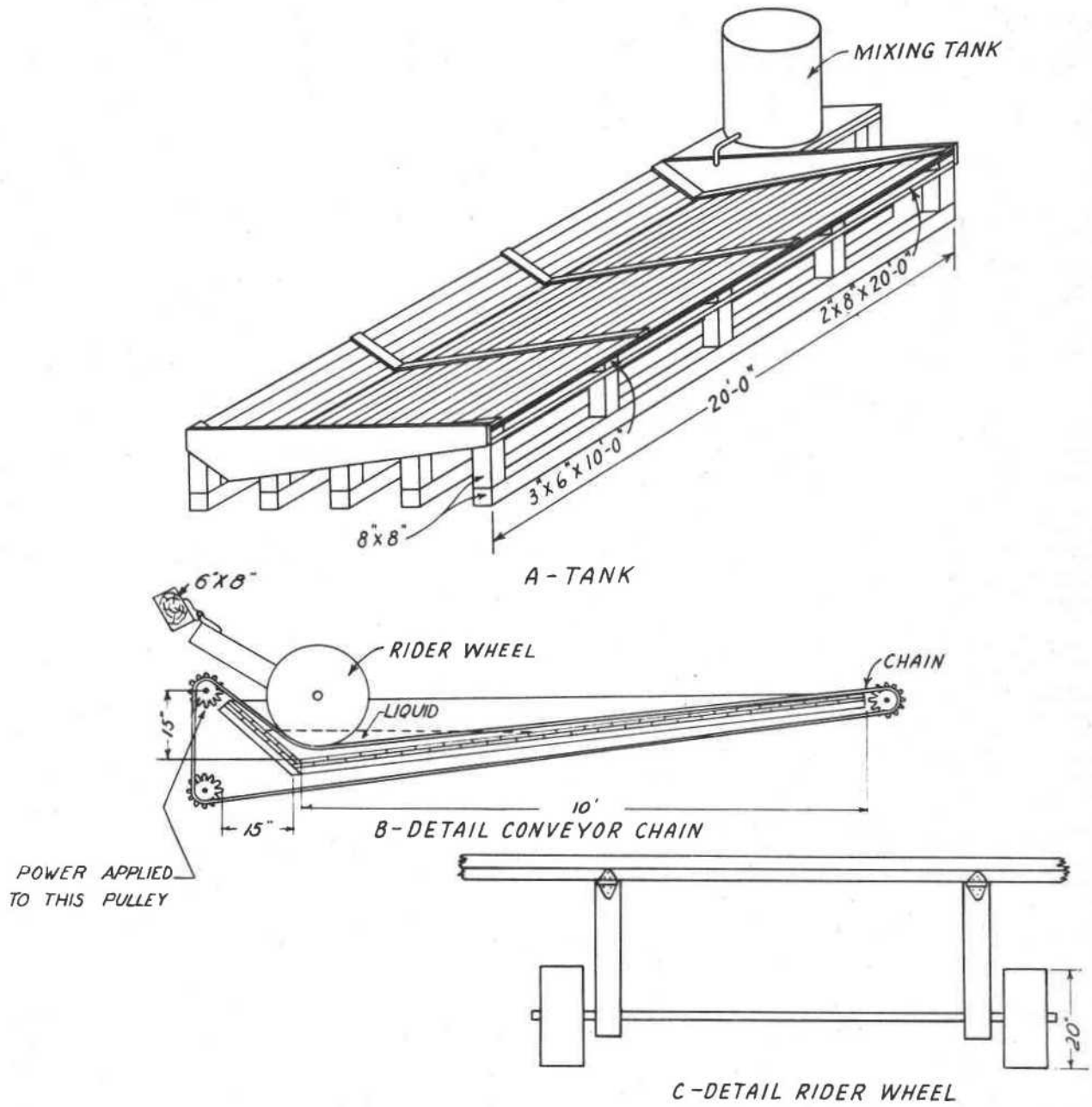


FIG. 2
CONVEYOR CHAIN DIP TANK

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