

SMALL SAWMILL IMPROVEMENT
PRACTICAL POINTERS TO FIELD AGENCIES

SLAB-DISPOSAL DEVICES FOR PORTABLE MILLS

The two devices described have been used by certain portable mills in lieu of the conventional trough conveyors used at many permanent mills.

Rotating-drum Slab Heaver

Slabs and edgings can be projected clear of the mill by using a rotating-drum slab heaver. The diagram (fig. 1) suggests the general structural design. A drum shaft of at least 2-3/16 inches in diameter is recommended, supported on bearings equivalent to those used on the headsaw mandrel. The drum is at least 12 inches in diameter and approximately 18 inches long. It can be made by welding steel end plates to a section of oil-line pipe or similar material. The ends are extended to form a rim. Teeth made from steel bars approximately 1 inch by 1 inch in cross section and beveled are welded to the drum perimeter as indicated in the sketch with the front or higher edge of the teeth about 1-1/2 inches above the drum surface. The drum assembly should be balanced. The drum is run at approximately 1500 revolutions per minute, and, because of slippage under overloads, a flat drive belt is recommended as better insurance against breakdowns than chain or V-belt transmissions.

The equipment is anchored at the non-deck end of the track, so that the drum axis is about 8 feet outside the rolls. The sills are approximately level, but a down slope beyond the sills toward the discharge heap is advantageous. Slabs are tossed onto the spinning drum and projected away from the mill.

Safety precautions include: (1) Placing the drum close to the ground; (2) protecting the belt and engine with guards; and (3) dropping the slabs carefully, with the heaviest end ahead but with the center of gravity of the slab behind the drum and the forward end higher than the drum when contact is made. Slabs that are thin in the middle should be cut into two pieces. Where possible, the equipment itself should be set up level but with a down slope along the line of trajectory.

The information of the rotating-drum slab heaver was contributed by Earnest A. Golden, forester in the Sam Houston National Forest, Huntsville, Tex.

Belt Type of Portable Slab Conveyor

Another type of equipment expediting slab disposal is shown in figure 2. Essentially, this is a wheel-mounted, up-tilted conveyor belt with drums at the discharge end revolving at high speed. For operating, it is anchored so as to transmit edgings and slabs to the fire, usually extending away from the rolls from a point opposite the tail edger.

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

† Maintained at Madison 5, Wisconsin in cooperation with the University of Wisconsin

The frame is of welded, 4-inch angle iron. The 15-inch-wide belt runs over rolls 10 inches in diameter and revolving at approximately 220 revolutions per minute, and the belt tightener is adjustable. The lugged drums at the discharge end are 10 inches in diameter and revolve at 770 revolutions per minute. The drum and belt shafts have ball bearings, and the shafts are 1-7/16 inches in diameter. Lugs placed as indicated on the drums are approximately 5/8 inch square and 1 inch high and are beveled to leave the forward edge higher than the rear edge. Wooden strips approximately 3 inches wide form the sides of the trough. A 10-horsepower gas engine mounted over the axle drives the belt, and a clutch is provided to permit stopping the conveyor belt without stopping the engine. The chassis can consist of the housings, wheels, and axle from the front of a truck. Springs are not generally used. The grounded end of the trough is supported by a strut as shown, and provision for hitching a trailer is made at this end.

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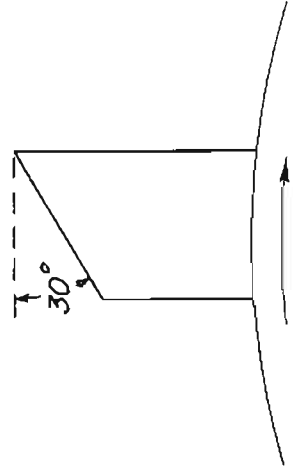
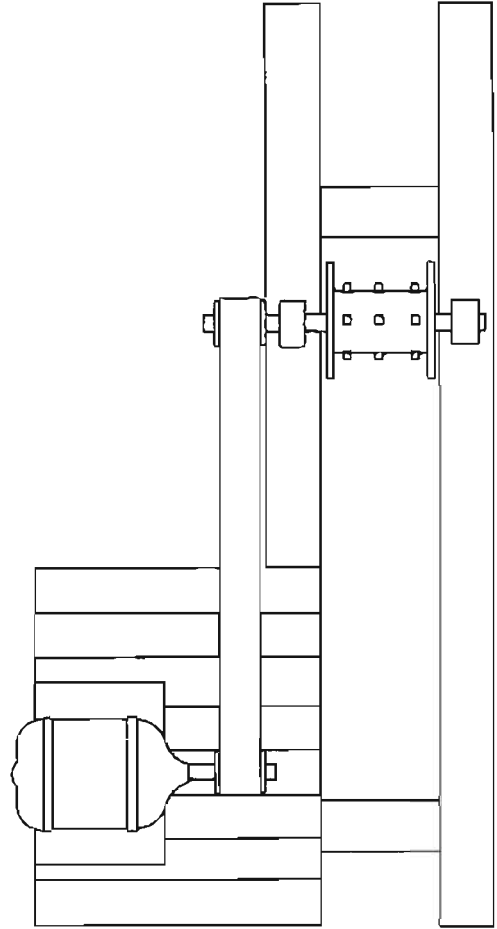
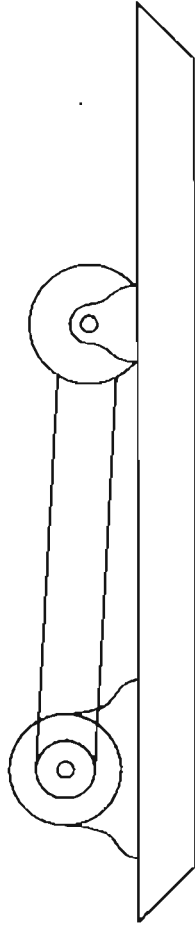
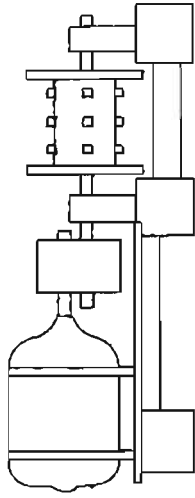


Figure 1.--Rotating-drum slab heaver.

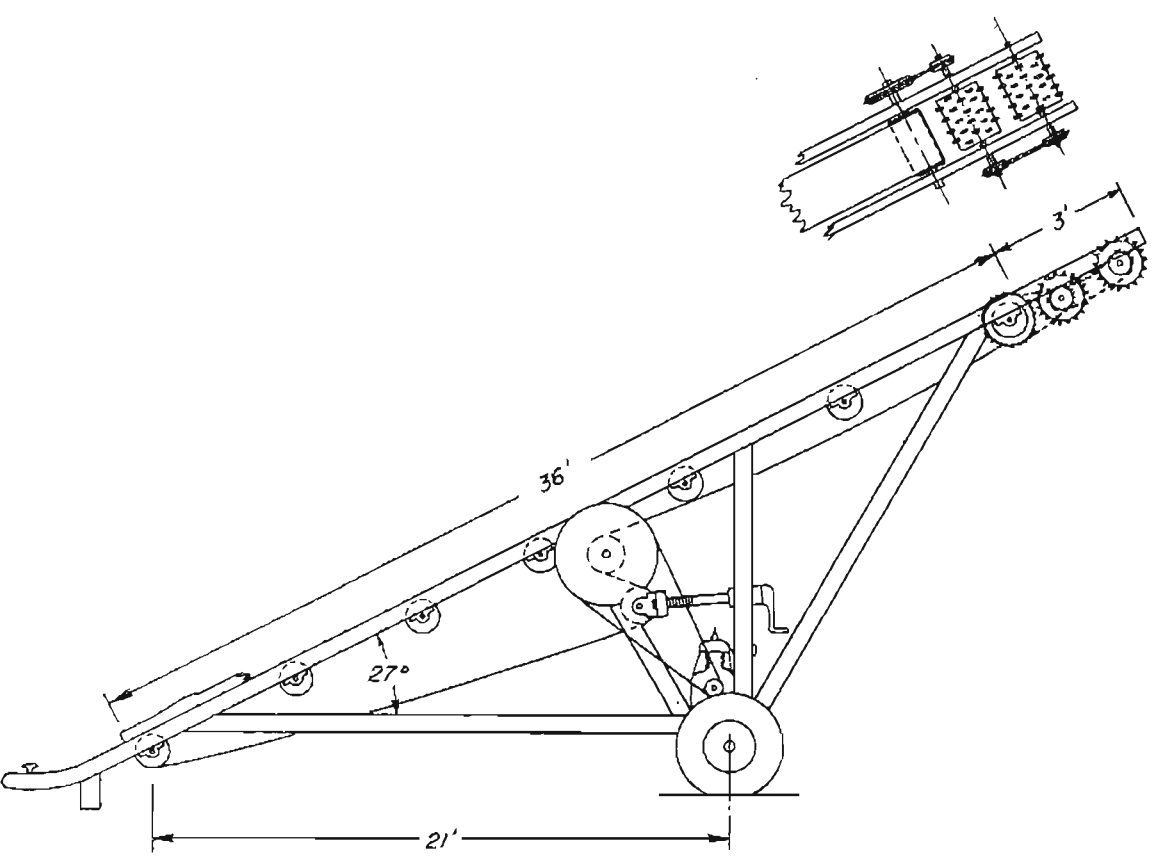


Figure 2.--Belt-type portable slab conveyor.