

SMALL SAWMILL IMPROVEMENT
PRACTICAL POINTERS TO FIELD AGENCIES*Madison, Wisc.*SMALL MILL CONVEYOR

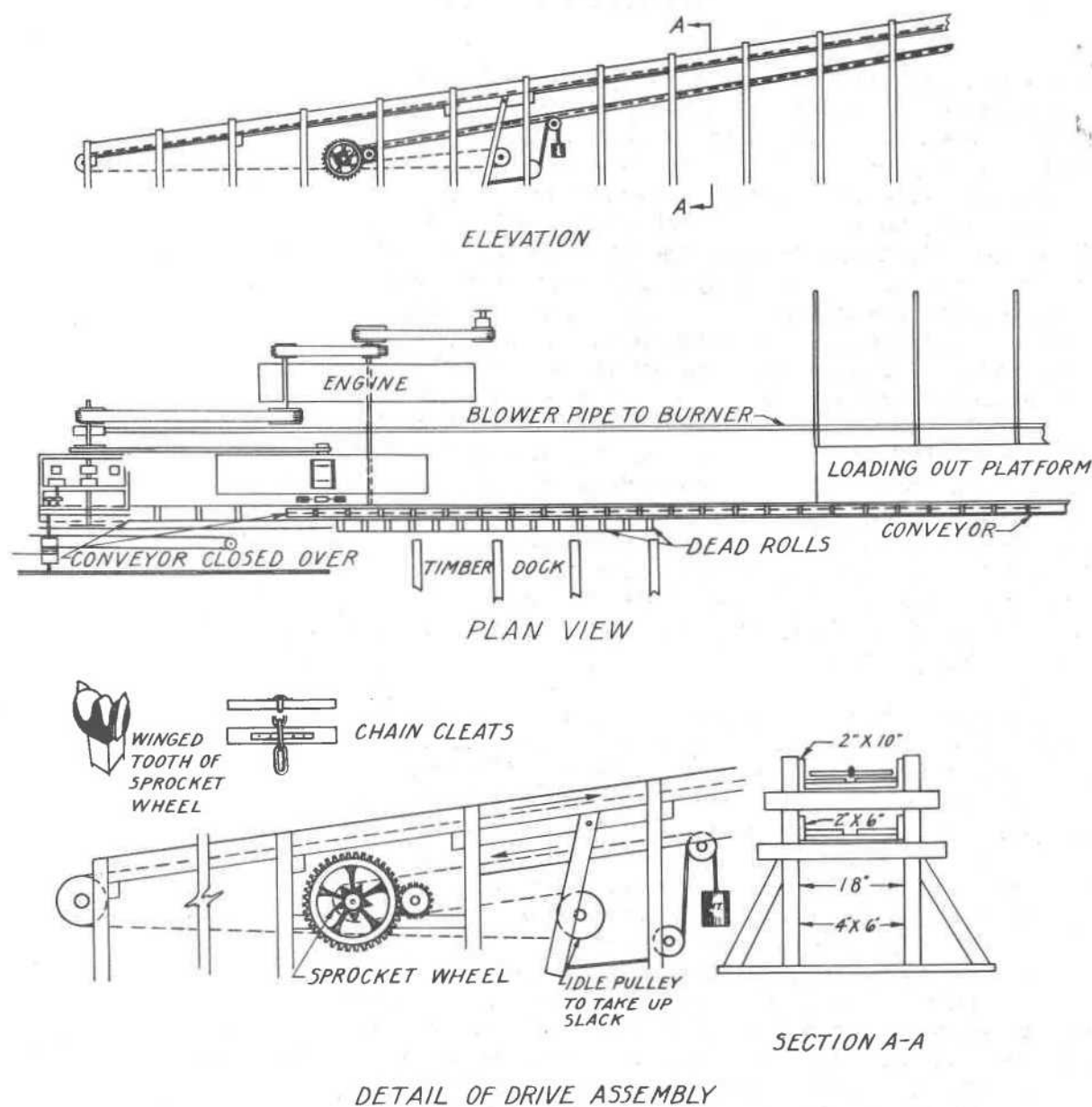
A conveyor that carries the sawdust, edgings, and lumber away from the mill is a labor saver for mills cutting enough at a set to warrant the installation costs. The conveyor shown in figure 1 is of the simple-trough type, in which the load is carried by a moving chain with cross bars or lugs spaced at intervals. It extends from the saw pit straight back to a burner and is readily accessible to headsaw and edger sawdust, to the sawed stock as it falls away from the headsaw, and to the edgings and edged boards from the tail end of the edger. Lumber is pulled off this conveyor at a point beyond the mill that is sufficiently elevated to permit package piling where the haul-out vehicle can back under the load. If slabs can be utilized, these also may be taken out, cut up, and collected in an elevated bin permitting cheap handling. The cutoff saw would be located along the conveyor (beyond the lumber pull-off deck) and powered by a small power unit separate from that used to run the mill. This feature is not shown in the figure. Provision may also be made to deflect the boards and edgings from the rear of the edger, thus eliminating the need for a tail edgerman. A live roll is required in the rear edger table, along with an inclined platform to carry material by gravity into the trough. This possibility is suggested but not shown in the figure. The conveyor is inclined so that, starting below the saw, it is slightly below the bed of the rear edger table about 18 feet back of the edger saws, and at the discharge end it is approximately 16 feet above the burner pit. Timbers or ties are taken over dead rolls to the timber dock.

The conveyor chain should be geared to travel at a rate of speed that will insure the boards being spaced in the conveyor. This will facilitate pulling the lumber off the conveyor chain. For example, when a mill cuts 8 saw lines per minute of 16-foot logs, a speed of 128 feet per minute would be required to keep the boards clear of each other in the conveyor. A 5/8-inch chain with a link opening of about 1-1/2 by 5 inches is suitable. Wood cleats are attached at approximately 4-foot intervals, but the exact spacing depends upon the diameter and tooth spacing of the drive sprocket; cleats are spaced to ride between adjoining teeth but do not engage them. The cleats are made of hardwood strips, about 1-1/2 by 3 by 16 inches, run through the link and strapped with metal. The plan (fig. 1) shows an idle pulley designed to take up slack. A less desirable drive dispenses with this, powering the conveyor through the pulley at the end of the trough under the saw. Details at the burner end are not shown, but provision must be made to forestall setting the conveyor afire. This is accomplished by using a metal trough inclined from the chain end down into the fire pit. To prevent smoke from blowing to the mill, the burner should be at least 75 feet from the back of the mill and downwind from the prevailing wind direction.



Contributed by
C. J. Telford
September 1944
Revised by
F. B. Malcolm
December 1958

Rept. No. 899-21



Z. M. 5697.1 F

Figure 1.--Small mill conveyor