

There are many other points which could be touched upon in direct line with this work, and there are also some which come under the other fellows' jurisdiction, such as the large percentage of waste created in the sawmill. Circular mills cause more waste than band mills, due to saw kerf, extra thickness, and mis-cut lumber. Too many mills are forced into production during times of depression, due to either the expiration

of time limits on their timber or improper finances which forced them to sacrifice in order to meet timber payments. The forests are possibly cut too close; they are peeled, instead of leaving such trees as nature needs to reforest itself. The resultant cleared lands are not needed; and as a beginning in our reforestation, would it not give us results quicker and cheaper if we saved and left them in the woods?

BETTER DESIGN OF CONTAINERS AS A MEANS OF SAVING LUMBER

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The responsibility of the packing-box manufacturer to conserve our timber resources, if measured by the amount of lumber used, is as great as any other industry. As a matter of fact it is greater than most of them, for about 15 per cent of the annual cut of lumber goes into boxes and crates.

The continued growth of manufacturing in this country causes a steady increase in the demand for shipping containers. The present demand for wood boxes and crates is making a serious drain in our rapidly diminishing forest resources. Any increase in the demand adds to that menace. It is already a grave subject for thoughtful consideration, and it would be indeed much more serious than it is except for the progress that has already been made in designing and constructing better containers of thinner lumber. This past progress encourages us to hope for even greater advancement in the science of construction in the near future.

The responsibility for initiating these newer designs and for developing and making possible these better practices in construction, necessarily is divided.

The organized packing-box manufacturers have met their responsibility in a manner entirely commendable.

The Federal Forest Service, through its research laboratories at Madison, Wis., has done its part admirably—has fully discharged its obligation within the narrow limits imposed by congressional appropriations. Shippers in many instances have encouraged the use of these newer ideas.

Yet, the full measure of these benefits can not be secured without the cooperation of the shipping public and the transportation interests.

The unorganized box manufacturers who are not applying the knowledge

now in hand to the extent that is desirable may be divided roughly into two classes: (a) Any commercial manufacturer who is not an active participant in the activities of the trade associations of the box industry and who as a consequence obtains his information upon the developments indirectly and generally long after their announcement, if at all, and (b) the box and crate making departments of industrial or commercial establishments, frequently in charge of a foreman but a step or two above the level of a common laborer.

Neither a packing-box manufacturer nor a foreman of a box department can combine his materials and his labor to the best advantage by the rule-of-thumb method of designing and assembling box or crate parts. Nor can he be expected to apply these better methods unless he knows about them.

The necessity of reaching and educating these two great unorganized groups within the box-making fraternity is one of the problems of this conservation movement.

The shipper must welcome these progressive suggestions and canvass the merits of them without prejudice. He ought not to be contented with packing methods which met satisfactorily the conditions of his grandfather's time. Any container which has safely carried his products these many years is not the right package for him to use to-day because it certainly contains more material and has more weight in it than present practices justify, considering that the cost of both lumber and freight have more than trebled in a generation.

Likewise the transportation interests must be willing promptly to revise and amend and even discard many of the present restrictive requirements and regulations if the maximum ben-