

Boxes and Cooperage

THE WASTE QUESTION.

Waste, to the beginner, presents a problem of doubt and difficulty, and this is not to be wondered at so much when we consider that, however great the experience of those who do not belong to the "beginner" class, much time and thought is given by them to the study of this waste problem.

Beginner or veteran alike buy at per M ft. measure, whether board or surface contents are paid for and every foot of this material which is lost in the manufacturing process represents a definite loss, in dollars and cents, of the manufacturer's money that is as real and tangible as anything can be in this business life of ours.

Seeing, therefore, that waste is a condition of loss, and not a theory, it behooves every beginner to give the cutting up of his lumber his earnest and constant attention, for in no other direction can he make or save money so quickly as by reducing the waste footage.

To look over a modern box factory, says J. M. Leaver, in *Packages*, and observe the speedy manipulation of the lumber into box and crate parts, is to wonder, no matter how great your experience may be, if there is not some leakage in the direction of unnecessary waste, and the expert would probably see, even in some of the prominent factories, some little point missed, either for lack of proper cutting combination or deficiency of intelligence on the part of some employees, etc., which would not be apparent in some other plant where these things obtain closer attention.

In a very great measure the success or failure of any box business depends on the manner of dealing with the waste problem, because it is the largest item of expenditure in the business, overshadowing very materially labor or fixed expense cost, i.e., under present conditions as to cost of raw material, in most localities, anyhow.

If we assume that the average value of stock as now used costs \$15 per M ft. at factory, and waste 20 per cent. of this, then the loss is \$3 per M ft., and the labor cost would not amount to that sum except in instances where an unusual amount of manipulation is required to produce thin stock. Nor would the fixed expense item reach the figure that waste would cost.

I am not to be understood as saying that waste is actually 20 per cent. This may be the figure for some plants. Other factories may get off with a much lower per cent., but I do honestly think and believe that a beginner may, and sometimes does, make as much as 25 per cent. or 30 per cent. waste.

There are many reasons for this belief of mine, the main one being that the beginner may be one to whom the business is entirely new, and, therefore, he has everything to learn; what information he may get will be mostly from employees who know nothing of the business end, and whose notions of cost and per cent. are very crude. They may mean well, yet their experience has been in the line of operation only, which usually means cutting up a great deal of lumber at as low a cost as possible, a commendable and necessary thing, yet often accomplished by a reckless use of stock.

No fixed rules can be laid down, for all plants, with regard to manipulation of stock. This is purely a question of in-

ternal economy. The problem for each plant is one to be solved for that plant alone, and it is in solving this waste problem correctly that the beginner gets the real start to success.

It seems to me, however, that the true way to approach the problem is, first, to consider very carefully the nature of the stock, and the endeavor to get orders, which will fit the stock with the least amount of waste, which involves variety of orders as to grades, lengths of cuts and widths, besides the thickness of parts which have more or less effect on the output.

I am constrained to put the matter in this light, for the beginner, because of some very large contracts that have been made recently, in regard to which my personal knowledge tells me that the stock available does not fit the contracts either as to quality, or availability of cuts and rips, or the requisite manipulation of thickness, due weight being given to other products necessary from the stock in question.

Rarely, if at all, do we find that the beginner who plunges into big things has been careful to weigh the pros and cons involved in furnishing proper stock for these big contracts; or if, by chance, he is supplied with material, it frequently happens this very same stock would bring more money in some product other than boxes. In either case the beginner has let himself in on a losing proposition, the extent of which is determined by the volume taken and the period of time covered.

To go into the factory and watch the men cross-cutting and find, that, owing to defects, a 10-ft. board lost, say, one foot, and, possibly, in order to make the proper lengths, for specifications being worked, another half foot of length of this board was lost, there would be a waste of 15 per cent. in cross-cutting alone, and the thought that should suggest itself to the amateur would be, how to get business as to quality that would reduce the foot of wastage for stock not good enough for the orders in hand, and if more lengths for cutting were available, would the half foot of wastage, made on the cutting lengths then being worked, disappear partially or entirely with a greater variety as to quality and lengths; and, again, in studying this out, the relative values of qualities must be considered.

Cross-cutting waste of one and a half feet on a 10-ft. board and the same amount of length on a 16-ft. board are different percentages; in the latter case the loss is below 10 per cent. So that it will not do to rush to conclusions and by so doing adopt a plan of averages that may be misleading. Better far for the beginner, I think, to watch closely the operation of cutting the larger items in the orders and note how they compare with the preconceived ideas of waste on them, and then, if the practice does not agree with the theory, set about applying a remedy in the line of combinations, etc., and if this won't furnish the needed assistance, then let him make up his mind to get better prices, or, if he is tied up on a contract, take his medicine and make a vow not to repeat the dose.

A little figuring will show the novice what the loss is on different length boards: in percentage, whether the waste is one inch or twenty inches; and a little table of this sort is instructive reading, whether it is considered theoretical or