

lumbermen, and they ought to endeavor to see that they get a good car service. There are lots of stocks of lumber which will have to be wintered which should have been shipped before the close of navigation. Owing to the want of cars it has been impossible to ship the material."

HANBURY MFG. CO., Brandon, Man.: "We have had considerable trouble this fall in securing cars for eastern points for handling our stock, but do not think we have been inconvenienced any more than the grain dealers at this point. We feel that we have received as good attention as the railway companies could possibly give us, considering the great rush of freight to the east. Most of our shipments are westward, and we have not had much trouble in getting cars for these points. We have experienced more trouble from having the cars lying in the yards for want of locomotives. Have known cars to lay in the yard here for nearly a week from that cause."

KEENAN BROS., Owen Sound, Ont.: "While we have been very seriously inconvenienced, and even had orders cancelled on account of inability to make shipment because we could not get cars placed, yet we have no knowledge that the railways have discriminated against lumber, and we do not think they have. From inquiries we have made we have found the G. T. R., for instance, has in the neighborhood of 2,500 cars loaded and waiting for transportation from Montreal, and they have no place to store the contents of these cars, even if it were desirable to do so. In spite of the delay we have experienced, we think that both the C. P. R. and the G. T. R. have done all that was possible to supply the requirements of their patrons. We think the only point that possibly may need investigation is whether they have allowed too many of their cars to be sent west to move the grain from that section of the country, thus making this section of the country stand more than our share of the car famine. Except in this way we do not think there has been any discrimination. But, of course, they consider any old car good enough to carry lumber, and will not furnish a car for lumber if it will carry grain without spilling it along the track."

R. LAIDLAW LUMBER CO., Toronto: "The failure of the railways to supply cars this fall has been a serious drawback to our business. For the past three months it has been almost impossible to secure any cars. We have orders for between four hundred and five hundred cars accumulated at the mills, and have had to take our salesmen off the road and refuse to accept further orders on account of our helplessness to fill orders we have. Every mail brings in complaints from our customers of the unfortunate position they have been put in through the want of lumber, for which in many cases contracts have been taken ahead. We could only reply that we were powerless and at the mercy of the railroads. The yards at the mills are overcrowded with lumber ready to ship, and shipping gangs are idle waiting for cars. The effect on the retail trade of the west is disastrous. Building operations have been seriously checked, and in some cases abandoned, on account of the shortage in lumber. A great deal of work that was contemplated has been postponed. One result is that a host of small portable mills are beginning operations in all parts of the west where there is any timber to be secured, and are taking out stocks this fall and winter which can be teamed direct to the retail yards independent of the railways. This will affect the demand on the large mills on the Northern and Midland divisions of the railways when trade opens up next spring. We know of retail concerns in Western Ontario who have contracted for a good part of their stock for next season from small portable saw mills at or near their respective towns, whence they will be sure of their supply and be entirely independent of the railroads. The railroad agents in their official capacity will not give any reason for the car famine in the lumber districts. But, unofficial, it is told that the policy of the railroads is to give their whole attention to competitive business while there is a sufficient rush in that quarter, and to leave all the customers who are entirely dependent upon them to the more convenient season when the boom of prosperity is perhaps on the wane. This is a good money making policy, but whether or not it is a sound business policy is a question. It may have the immediate effect of making a good showing on the stock dividends for a year or so, but surely it is a short sighted manoeuvre for any corporation to treat its

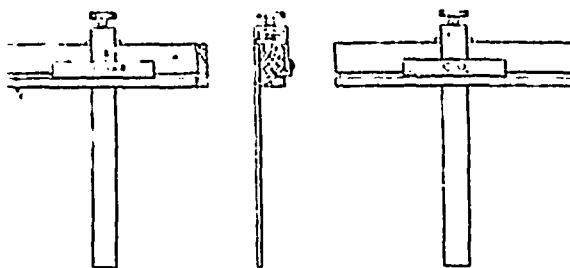
customers with such utter neglect. The number of our orders is now being gradually reduced, not by shipping, but by our customers instructing us to cancel their orders unless the goods can be shipped by a certain date. As the matter of shipping is beyond our control we must lose these orders and shall lose many others, some of which we probably shall be glad to take again at considerably lower prices. Meantime, the railways have advanced their freight rates and are congratulating themselves that they can at least be sure of their profits on the manufactured stock. In the United States competition keeps the railroads in line. In England a few years ago when the railroads tried to behave as a private monopoly, a railway commission was instituted. This commission has become a permanent body to regulate and control the railways in all matters which pertain to the general public interests and business welfare. What this country needs is a railway commission."

DOUBLE T-SQUARE.

Writing in Modern Machinery, Mr. W. G. Garretson says:

I submit herewith a sketch of a double T-square, useful to wood turners on work where there are many pieces to be turned out alike.

The angle iron (D) should be riveted to the blade (B) perfectly square, or when the square is completed and



DOUBLE T-SQUARE.

slipped onto the wooden bar (A) it will belie its name and be a reproach to its maker.

A pin (C) may be inserted near one end to gauge the first line from the end of the work. Several pieces may be laid off at once with this tool, and although marked on one side only, the mark will seem to extend around the piece when revolving in the lathe.

RAILROAD TIES.

Concluding an article on the relative merits of metal and wood ties, our contemporary, the Pacific Coast Wood and Iron, says:

Substitution of wood for ties has already undergone a great change. Originally the chestnut was considered the finest tree for supplying railroad ties, but forests of chestnuts are scarce in all parts of the country. Oak and pine have both succeeded the chestnut. Of the 80,000,000 ties used for renewals each year, about 45,000,000 are cut from oak trees, 12,500,000 from pines, 3,500,000 from chestnut, 5,000,000 from cedars, 2,500,000 from hemlocks and the tamaracks, 2,500,000 from redwoods, and 1,500,000 from the cypress trees of the south. Thus the oaks furnished about 60 per cent. of all the ties cut annually. The use of the pine trees of the south for railroad ties is rapidly increasing, and when the turpentine or pitch is left in them they last as long as many of the hardwoods. This pitch acts as a natural preservative.

When the ties are cut they have to be piled in neat square heaps according to a system that has been found to give the best results. Careless piling of the ties has cost the railroads thousands of dollars in the past, and now they all insist upon proper piling. This consists in putting not more than 50 ties in a heap, and arranged in a square so that each tier contains from six to nine ties; separated from each other by a space equal to the width of one tie. The next tier is made up of one

tie at each end, placed crosswise, so that the ties are all separated from each other. By this method the wind circulates freely through the piles and causes uniform and slow seasoning.

Railroad ties are both sawn and hewn. The former can be had more cheaply, but the latter last much longer. Some roads claim that the hewn ties will last from one to three years longer than the sawn ties. The rougher surface of the sawn ties collects the water and thus gives the fungus a better opportunity to grow. Nevertheless, the amount of waste of lumber necessary to make the hewn ties often more than counterbalances this difference in the cost.

There is a great diversity in the number of ties used to the mile on the different railroads, as well as in the size and quality of timber. The New York, New Haven and Hartford road use 2,800 ties to the mile, three-quarters of which are chestnut and one quarter oak, while some roads use as few as 2,000 to 2,500 to the mile. Over 60 per cent. of the ties are cut 8 feet long, 12 per cent. 9 feet long, and the rest 8½ feet. The 9-foot ties are used chiefly by the Southern and Gulf group of railroads, where pine timber is very abundant and cheap. The New England roads have their ties cut from 5 to 6 inches in thickness, while the Southern roads seem to prefer 7 inch ties. The width of the ties likewise varies from 5 and 6 inches in New England to 8 inches on the Central Northern and the Southern roads.

The tendency to economize on the ties in the east is thus apparent in the size of the sleepers selected, while in the Southern and Western States, where timber is plentiful, there is no such attempt to reduce the width, length and thickness of the ties. The denudation of the forests in the east has made it difficult work for the great railroads to secure all of the ties they require for annual renewal of the roadbed. Most of them have exhausted all of the available timber along the line of the track, and with the exception of a few scattering lots cut by farmers and small wood owners the ties have to be brought from long distances. One of the most important phases of the coast trading business of our lumber ships is the carrying of railroad ties from the woods of Canada to New York and Boston. Cedar ties are now brought in large quantities from New Brunswick and the woods of Maine to New York. This white cedar makes pretty good ties and its abundance makes the ties cheap. The lumber schooners come from New Brunswick by way of the Bay of Chaleur, the great shipping point for cedar ties, and they are delivered by cargo lots at thirty cents apiece. Hundreds of thousands of the ties are shipped by rail and delivered to the New York and New England roads at the rate of \$12 per thousand feet, board measurement. Besides white cedar ties from the woods of Maine and New Brunswick, there are smaller lots of chestnut, oak, tamarack and hemlock sent down.

The first excelsior machine was a large wheel, called the "Yankee whittler," which cut excelsior very fast, but not the best quality, and was soon discarded for what is called the upright machine. This machine, says the Wood-Worker, has been greatly improved within the last few years. At first one man would cut about 1,600 pounds in ten hours. At present, with the latest improved upright machine, one man will cut from 3,500 to 4,000 pounds in the same time.