

orgian Bay and water at Quebec. The road is of much importance to the pulp industry, and mills are located at many points through which it passes, including Hawkesbury, Lachute, St. Jerome, Grand Mer, and Shawinigan. The construction of the road opens up bright prospects for pulp and paper-making, as well as for the city of Quebec.

The suggestion recently made in these columns that railroads might be employed to a much greater extent in the near future for the transportation of logs from the woods to the mills is practically illustrated in some parts of the United States. It is learned that in Michigan and some other states where a few years ago logs were floated to the point of manufacture, railroads are now used for this purpose. It is also significant that a strong syndicate is planning to ship by rail 1,000,000,000 feet of logs from the Rainy River country to Stillwater, Minnesota.

We are again reminded of the one great want of the lumber trade in Canada by the receipt of a little booklet giving the rules for the grading of pine and hemlock lumber as adopted by the Lumbermen's Associations of the Mississippi and Wisconsin valleys. A glance at the rules shows that they have been prepared with more than ordinary care. The general instructions are intended to cover points upon which opinions are likely to differ, while to make the rules more explicit several examples of each grade are given. These rules apply to 95 per cent. of all the white pine and Norway lumber manufactured in the Mississippi and Wisconsin valleys. It is to be regretted that in the matter of uniform grading of lumber, Canadian manufacturers have not shown as much progress as their confreres in the United States. One has but to examine the different stock sheets as sent out by manufacturers to be at once convinced of the great necessity of the adoption of some such rules. No two mills grade their lumber in the same manner.

#### DAMAGES FOR ACCIDENT.

Blow vs. London and Petrolia Barrel Company came up in the Divisional Court at Toronto, before Mr. Justice Falconbridge, on motion by defendants to set aside verdict of jury and judgment of Mr. Justice Meredith, and for a new trial. The case was an action for damages in law and by statute for injuries sustained by plaintiff, who while employed by defendants and acting under the directions of one Weir, his superior, and removing waste near a circular saw in motion, had his left arm cut off. The plaintiff alleged negligence on the part of defendants in leaving the saw unguarded, and in not having a proper mode of ingress to and egress from it. The jury did not agree upon an answer to the first question, which was whether Weir gave the direction to plaintiff, which plaintiff says he did, to approach the saw by a certain way, and as to the second, found that the saw was unreasonably dangerous, because not properly covered, and that plaintiff was entitled to \$500 damages. It was contended for defendants that the jury not agreeing to a general verdict, and in the absence of a finding that Weir had given an improper order, that plaintiff could not succeed. Held, that the jury have

found in effect that the saw was not securely guarded, and that by reason of the defendants' neglect to guard it the plaintiff was injured, and that their finding involves a finding that plaintiff was properly where he was when the accident happened, and the motion should therefore be, and is, dismissed with costs.

#### LOGGING MAHOGANY.

THE following somewhat lengthy description of the mode of logging mahogany is taken from Self Culture. It is worth reading:

"The mahogany hunter is the most important and best paid laborer in the service, for upon his skill and activity largely depends the success of the season. Mahogany trees do not grow in clusters, but are scattered promiscuously through the forests, and hidden in a dense grow of under-bush, vines and creepers, and it requires a skillful and experienced woodsman to find them. No progress can be made in a tropical forest without the aid of a machete, for the way must be cut step by step. The mahogany is one of the largest and tallest of trees, and the hunter, seeking the highest ground, climbs to the top of the tallest tree and surveys the surrounding country. His practiced eye soon detects the mahogany by its peculiar foliage, and he counts the trees within the scope of his vision, notes directions and distances, and then, descending, cuts a narrow trail to each tree, which he carefully blazes and marks, especially if there is a rival hunter in the vicinity. The axemen follow the hunter, and after them come the sawyers and hewers.

"To fell a large mahogany tree is one day's task for two men. On account of the wide spurs which project from the trunk at its base, scaffolds must be erected and the tree cut off above the spurs, which leaves a stump from ten to fifteen feet in height—a sheer waste of the very best part of the tree, and one which American ingenuity would certainly devise some means to prevent. While the work of felling and hewing is in progress other gangs are busy making roads and bridges over which the logs may be hauled to the river. One wide 'truck pass,' as it is called, is made through the center of the district occupied by the works, and branch roads are opened through this main avenue to each tree. The trucks employed are clumsy and antiquated affairs, which no American would think of using; the axles and boxes are imported from England, while the other parts are made upon the ground. The wheels are of solid wood, made by sawing out the end of a log and fitting iron boxes in the center, no spokes or tires being used. New wheels are in constant requisition, and repairs cause frequent and expensive delays. Most of the trucking is done at night by torchlights of pitch pine. The oxen are fed on the leaves and twigs of the bread-nut tree, which gives them more strength and power of endurance than any other obtainable food. The trucking being done in the dry season, the logs are collected on the bank of the river and made ready for the floods. On the longest rivers these begin in June and July, and on others in October and November. The logs are turned adrift and when they reach tide water are caught by means of booms. Indian loggers, usually Caribs, follow the logs down the river in order to release those which are caught by obstacles.

No little judgment and experience are required to determine at what exact stage of the flood the logs should be set adrift. Should the waters rise to what is called 'topgallant flood' before the logs reach the boom, many of them would be carried over the banks and left high and dry in canebrakes and thickets, or covered up by sand and rubbish. From the boom the logs are rafted to the embarcadero and 'manufactured' for shipment.

"Mahogany trees give them from two to five logs each, measuring from 10 to 18 feet in length and from 20 to 44 inches in diameter after being hewed. The manufacturing process consists in sawing off the log ends which have been bruised and splintered in transit down the river, and in relining and rehewing the logs by skillful workmen, who give them a smooth and even surface. The logs are then measured, rolled back into the water at the mouth of the river, and made into rafts, to be taken to the vessels anchored outside the bar."

#### LACING A BELT.

A writer in The Engineer suggests a new method of preparing the ends of the belt lacing, concerning which he says: Every one who has to lace belts knows how difficult it is to push the soft ends of the lace through the belt, unless the holes are much larger than they should be. The majority of men use either a nail or the point of a file to aid in this work, but this is cumbersome, and, too, a nail of the proper size or a file is not always on hand. There are metal tipped laces and also metal tips on the market, which are adapted to cover the end of the lace and thus make it stiff enough to be pushed through the holes in the belt, but I believe my method is superior to either of those already mentioned, inasmuch as it is more of a time saver. My method consists in holding the tapered ends of the lace leather over a lighted match until the leather becomes charred, when it will be found to be quite hard, and plenty stiff enough to be pushed through the holes in the belt without breaking. Care should be taken not to char the leather too much, otherwise it will become brittle. A little experimenting will enable the work to be done just right.

#### TREATMENT OF RUBBER BELTS.

To obtain the full value from a rubber belt, it is essential to buy the best belt, provide pulleys of ample diameter and face, avoid excessive strain, distribute the strain over the whole width of the belt as equally as possible, have the fastenings made so that they will not pull out the ends of the belt, and avoid having the belt exposed to excessive heat or to grease or dirt. You can greatly increase the service and life of a belt by applying with a brush a composition made with equal parts of red lead, black lead, French yellow and litharge mixed with boiled linseed oil and japan, enough to make it dry quickly. This will produce a finely polished surface. A coat of the same composition may be applied if the rubber gets peeled from the surface of the belt. Animal oils, grease and castor oil are injurious to rubber belts and should not be used, the composition mentioned above being all that is necessary. Belts to be adjusted to the pulley should have the ends cut square and true, and be cut shorter than the distance around the pulley by an  $\frac{1}{8}$  to  $\frac{1}{4}$ -inch for every foot when measured with a tape; a steel tape is the best. They should be stretched as tightly as possible, and with wide belts this can be done best by the use of clamps secured firmly to each end of the belt. There is no danger of breaking, as a belt of good quality, 6 inches wide and 3-ply thick, will stand a direct strain of 5,000 pounds. —Steam Engineering.

Mr. A. F. Bury Austin, the well known lumber merchant, of Montreal, left for British Columbia on November 19th, on an extended business trip. Upon his return he will be pleased to receive enquiries for all kinds of material in his line.