

packing and freight. American makers send seasoned spokes to the English market, which command a good price, and I see no reason why this waste timber, which is at present unproductive, should not in a similar manner find its way into our factories.

Various timber yards were visited at London, Chatham, Ottawa, Aylmer, Hull, and New Edinburgh, but at only one (Mr. Cormier), at Aylmer, did I see hard and tough timber suitable for carriage building purposes, although large quantities would have to be very carefully examined, selected, and sorted by competent persons in order to secure woods of fine and suitable quality.

Where elasticity is an essential quality required, the trees should be felled and sent to market in youth or middle age, when such quality is naturally in the wood, for it is with trees as with the human body, strength and elasticity must be sought in youth and middle age, not at full maturity or old age.

In order to economise weight, transport, freight, etc., it is desirable that trees should be converted into planks, as is done by timber merchants in England, who convert it where or very near to where it grows, so as to avoid all needless expenses for handling.

Moreover, after planking, great care should be taken to avoid another cause of loss by the timber splitting: for the harder and better the quality, so much greater is the chance of splitting in seasoning. Unless this is provided for and prevented, there may be a waste and loss of 20 per cent. when fully seasoned. Samples have been sent to Mr. John Dyke, the agent of the Canadian Government in Liverpool, to forward to the Department of Agriculture at Ottawa, showing how the various woods used in England by carriage builders are protected by wood clamps strongly nailed on the ends of all boards and planks 1 in. and upwards in thickness, and glued canvas smeared with strong paint on the thin boards used for panels.

With timber thus prepared and carefully handled in transport there need be little injury or waste, and thus the price can be so arranged as to be advantageous both to seller and buyer; every unnecessary waste should be avoided, and producer and consumer should be brought into close contact for their mutual advantage.

A system of second or artificial seasoning of timber seems to be very general in the United States in addition to the natural system of seasoning wood in the open air, thus—many factories I visited had hot rooms and drying closets and boxes in which seasoned converted wood is kept for several days previous to the framing being finally fastened together. This is probably a wise precaution for objects made of wood and intended to sustain the great heat of the summer in some of the States; but the system is carried a step further in some cases, as for instance at the great factory of the far-famed Pullman Railway Carriage Company, at Pullman, near Chicago. The timber there is exposed to the influence of steam for several days in closed chambers in order to wash out the sap; after a certain time, ascertained by experiment and experience, the steam is turned off and a current of hot air is blown in, the moisture being carried away by exhaust fans. It is contended by scientific experts that the sap of the wood is the part that sooner or later causes decay, containing as it does certain proportions of starch, sugar, or syrup, according to the nature of the tree. Under conditions more or less favorable, this has a tendency to ferment, changes its character and decays, carrying the fibrous portions of the wood with it. If the steam and dry air really carry off the elements of decay and dissolution, and the cells that contained the sap close firmly, decay is deferred or becomes impossible. Be this as it may, the materials and workmanship of these choice and ingenious Pullman cars leave little to be desired, and if this American system has as much merit as its inventors and agents claim for it, a new era for workers in wood may have set in at which many will rejoice. The system has already been introduced into England, and before many years have elapsed we may possibly be able to hear the experience of those who have put it to the test.

At St. Catharines, in Canada, near Niagara, I found a prosperous branch of an American wheel manufacturing company, and it is probable that with care and enterprise its business may be extended, and others established in the colony to meet the demand for good wheels in England.

While receiving the assistance of the Canadian Government through the courtesy of H. B. Small, Esq., of the Department of Agriculture, and his colleagues at Ottawa, I was afforded opportunities of seeing the enterprise, industry, skill, and rapidity of work of some of the chief timber merchants, lumbermen, and their assistants in that hive of timber industry, Ottawa.

At one of the leading mills great balks of pine were neatly hauled up from the river near the Chaudiere Falls, and, almost solely by the water power judiciously applied from the falls, they were placed in position on the great saw benches, the

process being watched and directed by a foreman, so situated that his range of vision took in all that was going on; and I was informed after seeing the sawing done, and the great mass of timber moved by machinery, apparently as easily as a skilled nurse turns over a tiny infant, that a great tree can be converted into joists cut to a given thickness and length at an average of eight minutes per log.

Of course there is much refuse from these logs, and men and lads have to be tolerably active in clearing this away in order to prevent impediments and delays.

The larger refuse is rapidly converted into water pails by very ingenious machinery. Such as is not available for pails is used by a neighboring match manufactory, which work up the scraps, except the bark, and what adheres to it, and the sawdust.

But there is a leak, and a very troublesome one, notwithstanding all this use of refuse, much of which finds its way into the river and becomes interlaced, forming shoals, banks, and impediments that must inevitably cause difficulties and troubles hereafter, which will have to be dealt with by the municipality or the Government.

(To be continued.)

As will be noticed by the present issue very important improvements, both typographically and otherwise, are being made in the CANADA LUMBERMAN. The late arrival of our new printing outfit has not only delayed publication for some days, but also compelled us to mix the old stock with the new in order to get out in at least a reasonable time. With the November issue, however, we hope to show one of the handsomest publications on the continent, and our friends of the trade and also of the press, will please forgo criticism until the November number reaches them.

WE have received the number for Sept. 17th of the edition for Canada and the United States of the *Illustrated London News*. It is printed from duplicate plates and is in every respect a *fac simile* of the original London edition, so well-known and highly appreciated. The double page illustration of "an episode of the Thames boating season" is excellent, and some of the other principal illustrations are scenes in Burma, the United States, Lindisfarre (the pilgrimage), New Zealand, Bulgaria, Morocco, etc. Krupp's latest big gun is depicted on its railroad journey towards Italy. Beside the attractive illustrations, the letter press gives in a compact, readable form the current news of Great Britain and the rest of the old world. The office of publication is 237 Porter Buildings, New York.

Do You Do These Things?

Do you take a squirt can in one hand and project a stream of oil as far as you can throw it, in order to save going to the hole itself?

If you do, don't do it any more; wilful waste is downright robbery.

Do you use an oil can at all for oiling, except on emergency, or for the moment?

If you do, don't do it any more, for much better lubrication can be had by automatic apparatus.

Do you keep an old tin coffee pot full of suet on the steam chest, and every time you have nothing else to do pour a dipperful into the steam chest?

If you do, stop it, and get a sight feed cup, which will save you the trouble of slushing the cylinder and save the cylinder and valve seats, the piston and follower, and all other places touched by the grease.

Do you feed up on the boiler until the water is out of sight in the glass, then shut off the feed, put in a big fire and sit down in a dark corner with a four-horse brier pipe and smoke until you happen to think that maybe the water is low?

If you do these things you should notify the coroner that some day his services will be needed, but it is better to cease the practice mentioned before the coroner comes.

Do you stop leaks about the boiler as fast as they occur, or do you wait until the place sounds like a snake's den before you stir?

If you do, you waste heat, which is the same word as money, only differently spelled. Every jet of hot water leaking from a steam boiler is just so much money thrown away, and if it were your money you would be bankrupt in a short time, in some boiler rooms.

Do you take a screw wrench and yank away at a bolt or nut under steam pressure?

If you do there will come a time, sooner or later, when you will do so once too often, and either kill yourself or some one else. Bolts or nuts are liable to strip or break if tampered with under pressure, and they never tell anyone when they are

going to do it beforehand.

Do you attempt to stop pounding in the engine by laying for the crank pin as it comes around and trying to hit the key once in a while?

If you do, ask the strap and neck of the connecting rod how it likes it, when you don't hit the key and do hit the oil cup.

Do you pack the piston by taking it out of the cylinder, laying it on the floor, setting out the rings and then when the piston won't go into the cylinder, try to batter it in with a four-foot stick of cord wood?

If you do, you should reform, and pack the piston in the cylinder where it belongs, being sure to get it central by measuring from the lathe center in the end of the piston rod.

Do you put a new turn of packing on top of the old, hard burned stuff when the piston rod leaks steam?

If you do you will have a scored piston rod and broken gland bolts some day. Packing under heat and pressure gets so hard that it cuts like a file when left in the stuffing box, and as soon as one begins to leak, all the old stuff should be pulled out and new put in its place.—*The Milling Engineer*.

CORRESPONDENCE.

MADAWANKA, N. B., Sep. 20th, 1887.

Editor Canada Lumberman.

DEAR SIR,—I can see no excuse for any one who has ideas to express failing to use them for the benefit of his fellow readers, particularly when you, Mr. Editor, promise, as you do in the last issue of THE LUMBERMAN, to make them interesting.

I am going to take exception to your remarks regarding Quebec ground rents, for as you know there are two sides to every question, and without opposition there is no investigation, without investigation there is no proof, and without proof authority is no better than so much sawdust or chaff.

Quebec ground rents, like everything else, finds its level. It is a well-known fact that our lumber trade is on the wane, and unless strongly protected our country will soon find itself in a similar, if not a worse, position than are the Americans to-day. Experience proves that the lumbering business of this country is being carried on extravagantly, and in many cases recklessly, which sooner or later will bring this great industry to grief, leaving the country in a much worse state than the operator found it. I contend that it is the duty of all governments to check, before too late, this wholesale slaughter of our forests, regulate the trade and keep it within the limits of Government control. They should encourage economy, and so protect our forest wealth that for generations to come it may be utilized to build up our country, instead of giving it body and bones to syndicates and monopolists by which to augment their exchequer to the detriment of the general public. We never should allow one stick of timber to leave our country before being manufactured, and this granting of a monopoly of our timber lands to speculators is a curse, and an imposition on the people of this country. And the screws are getting tightened up more and more every day. The wholesale slaughter now being carried on is making our forests a prey to forest fires, and otherwise destroying the wealth which rightly belongs to the public. I hold that if our lumber lands were highly protected, and domestic mills encouraged in the interior of our country, we would then have one hundred settlers where now we don't have one. Towns and cities cannot be built without a country to support them, and if this natural wealth is removed all prospects of a local trade is removed also. The rapid construction of railroads throughout the interior of our country, adds strongly to the argument to encourage domestic mills to feed and support these iron highways. The starting up of such mills would make a boom in settling our lands, in railroad traffic, and in the manufacture of many things now not thought of. What do our cities gain by their lumber speculators cutting and floating our lumber to the large centres to be manufactured? They increase a small army of labor, hard worked, half fed, and increase the rum traffic, with poverty staring the laborer in the face through the winter, and at the year's end no better off.

What may we expect when our lumber boom ceases? It's all very well as long as high prices are maintained to fill the coffers of syndicates and monopolists, but when a stagnation takes place it will prove a serious affair to the tens of thousands of laborers who now depend on the lumber industry to supply them with the substance of life. The sooner therefore that our wise officials draw the attention of farmers and domestic millers of the necessity of building up our neglected local markets the better it will be for all, and the sooner we will learn to say:

"Ye earnest men, no longer shrink
From speaking what you truly think;
Proclaim the truth you find!
And let free search, free speech, free thought,
By blood of ancient worthies bought,
Advance the human mind."

P. O. BYRAM.