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OTTAWA NOTES.

The *Pembroke Observer* says:—Mr. John Sullivan of Westnoath, brought down from Chalk river a small raft of square timber which he manufactured this past winter. He sold to Mr. Richard White.

Mr. W. B. McAllister has sold his two years' cut of logs, dimension and waney timber, to Messrs. Perley & Pattee and Mr. James McLaren, of Ottawa. This sale foots up the handsome sum of \$76,000. Mr. McAllister retains sufficient logs to fulfil all sawn lumber contracts he has made. Mr. McAllister has a quantity of dimension timber coming over the slide at Pembroke. Men are actively engaged in rafting it up, preparatory to taking it down to market. It is sold to McLaren of Ottawa, and is to be used for railway purposes.

The season of towing has now fairly set in, the tugs Robinson and Bronson, being actively engaged in bringing down the logs from Des Joachim to the Fort William boom.

Trains of sixteen cars and upwards are now passing daily laden with timber got out on Mr. James Worthington's limit near Sudbury. The timber is clean and of an average good size. It is en route for the Quebec market.

A raft containing one hundred and sixteen cribs, and belonging to Messrs. Thistle, Francis & Co., is coming down the Ottawa. The timber, which is said to be of a superior quality, was got out near Cedar Lake, Petowawa.

A small craft belonging to Klock Bros., Aylmer, was running over the Des Joachims a few days ago. Much dissatisfaction is expressed by lumbermen on account of the new international bridge in many cases breaking the crib completely up. In all cases when the men on crib see that the crib is going to strike, they unhesitatingly jump off rather than risking their chance of being drowned than staying on the crib and being killed. Two Iroquois Indians, while running Thistle, Francis & Co.'s timber there last week, narrowly escaped drowning. They sprang into the foaming water just as the crib struck the pier, and lucky for them that they jumped in time, for in an instant after the crib, with a terrible crash, was knocked into shingle sticks. The Indians reached the shore much exhausted.

THE ORIGIN OF LOG RULES.

Mr. Henry Baxter, writing to the *Northwestern Lumberman* of May 10, says:—In the *Lumberman* of April 10, Mr. Peter L. Trout asks a question: "Why is it thus?" calling attention to the fact that Mr. Doyle's tables for the measurement of lumber in the log were not a true series; and why not? He has discovered a rate of progression that coincides with nearly all the terms of the 16-foot column, but not quite all.

At the time of my earliest recollection, boards were not measured, or bought and sold,

by the superficial foot, or thousand feet as now. They were counted by the number of pieces. A board 14 feet long and ten inches wide, was one board; 15 inches wide was a board and a half; but the logs were uniformly cut 14 feet long, with an axe, butted in the mill with a butting saw, (now called a drag saw), and sawed almost always 10 inches wide. Sometimes a log would make "double stuff," that is, two 10-inch stocks. But with improved mills there became an apparent need of improved methods of handling as well as measuring. The lumbermen on the Hudson and Mohawk rivers began to run two saws in a gate and to count lumber by the superficial foot or hundred feet. All lumber was not made into Albany piece, or sold by the piece, as it had been when every log was hewed down to 10 inches in thickness and put upon the carriage of a curious gang mill and made into boards. Previous to using gangs, I learned that the whip-saw had been used to make Albany piece boards of the hewed stick.

The gang had a wooden crank, a wooden saw-gate without other metal than that about the saw hangings, and not much of that. It was a good many years after lumber began to be counted by the superficial foot, before there was any thought of taking the board measure of logs. Among men who manufactured or dealt in lumber, none could be found that knew anything about series, or the different rates of progression.

The first idea of making a log scale that I heard of was by means of diagrams. A circle was drawn of a given diameter, and the amount of timber it took to ordinarily make a slab was laid off, a board was then laid off and properly edged, and the stock, after being sided down, was turned down and laid off into board thickness, and all was then carefully measured, and the "contents noted." This process was repeated until all diameters of saw logs had been treated in the same way. Then on the basis of 10, the log being 14 feet, other lengths were increased or diminished in proportion as to quantity. Then the diameter of a log was measured, and it was made carefully into boards, which were carefully measured. The actual production was found to disagree with the amount given in the log table. More logs were tried in the same way, when it was found that scarcely any agreed with the log table, or with each other when of the same diameter. Longer logs were tried, when it was found that to add one-seventh to the amount made by a 14-foot log, would give a sum somewhat greater than could be got out of a sixteen foot log; that to deduct one-seventh from the amount produced by a 14-foot log, the amount would not be so great as a 12-foot log would make. So the scale was good for nothing, and any plan for measuring logs yet proposed had failed. Another plan was then proposed and tried:—

to carefully saw into boards, and measure 100 logs of each diameter of each length, and take the average, that is, add together the quantity produced from each log of 100, and take the hundredth part of the sum for the corrected measurement of all logs of that diameter and length. This must make the scale as nearly true as any plan we could devise. We thought all contingencies were then included and cared for in our plan. I notice that Mr. Trout has run into the same error that we did, in supposing that the quantity a log of a given diameter produces varies directly as to the length. It never entered into our heads that a crook does effect a short log as well as a long one. When we found there actually was a difference, we could easily understand the reason.

When I began work on the Alleghany river, the custom was to make boards nearly one and quarter inches in thickness, and a new log scale had to be constructed. The plan adopted was the same as the one previously adopted. All logs were 16 feet long. By sawing according to the custom of the country, a 16-foot log, 19 inches in diameter, made an average of 200 feet a log. A corrected table showed that I could fill any omitted or lost quantity by a certain proportion. A 19-inch log produces 100 feet; 19 minus 1, squared, is 200, as the square of any given diameter less 1, is to the required amount, board measure.

I understood at the time that Mr. Doyle, in constructing his log tables, adopted the same plan of construction that we did. Scribner constructed, and published, a log table by diagrams, assuming that the tree was cut into lengths of 16-feet, but in practice it was found that a very large log would not produce near as much lumber as the scale indicated, and a small log would make more. He revised his table, and still it did not give satisfaction. Doyle's came nearest to being satisfactory of any one published.

In view of these facts, is it at all surprising that Mr. Trout should be able to detect a seeming discrepancy? Mr. Doyle made no mistakes in his computations, and committed no error in adopting his methods of construction.

FORESTRY CONGRESS.

The Forestry Congress at Washington met last week, and was attended by many gentlemen interested. Papers were read by many of these present, and Mr. Phipps, who was there by special invitation, delivered an address. In it he pointed out the difficulties in the way of the cause in Ontario, and sketched the methods in which the Ontario Government were moving in the matter, stating that 15,000 copies of a forestry report had been already distributed; that the counties were being communicated with concerning the best method of encouraging the preservation of those portions of forest in private hands, and that an investigation of some

of the large pine districts of the interior, with a view to their better security from fire and continuance in a reproductive condition, would soon be undertaken. In connection with the last, Mr. Phipps remarked that with regard to the removal of the debris of lumbering—the pine rubbish which is often the cause of great fires, there seemed to him, as an old chopper, no way but one. "If," he said, "you go into the forest for timber, the trunk of the tree is all you want; you do not need the top, with all its branches. If you need square timber there will be great slabs and chips; if round, there will be the chips of cutting the tree down. If you leave them to summer it will be dangerous to burn them. If you leave them a night snow may cover them. What must be done is, when you have got out your log or square stick, chop down the branches of the top until it forms a close mass, pile the slabs or chips on the top and burn it." If lumbermen could see their way to doing this tree by tree, which would undoubtedly be an increased expense, there would be much less food for forest fires. The result would be that lumber would cost a little more, but it would be a great point attained.—*Toronto Telegram.*

The Size of English Trees.

Evelyn mentions the oaks cut down at Newbury, in Berkshire, one of which ran 60 feet clear without a knot, and cut clean timber five feet square at the butt; another gave 40 feet clear, straight timber, squaring 4 feet at the butt and nearly three feet at the top. The "Lady Oak," mentioned by Sir E. Harley, produced a butt of 40 ft., and squared five feet throughout its whole length, thus producing 20 tons of timber. But the most magnificent oak ever known to have grown in England was that dug out of Hatfield bog; it was 120 feet in length, 12 feet in diameter at the butt, 10 feet in the middle, and six feet at the smaller end where broken off; the butt for 60 feet squared seven feet of timber, and four feet its entire length. The wych elm, which grow in Staffordshire (time Elizabeth), took two men five days to fell; it was 10 yards in length, 17 feet diameter at the butt, yielding eight pairs of masts, and 8,000 feet of boards; it contained 97 tons of timber.—*From Knapp's Journal of a Naturalist.*

The *Belleville Intelligencer* says that Buck's drive, which came down the Moura and was driven by James Walker, measured about 30,000 feet. Three drains have been completed and the fourth will soon be finished here. Thirty-three men are now employed at the work. The rafting will be completed when some timber at points between this port and Bay Bay is collected. The tug Eliza Bonar will tow the drains to Garden Island and from there they will be taken to Quebec by the Huron. Calvin.