

rapidly. To renew the ties on these roads every seven years will require vast quantities of timber, and for this purpose the almost untouched tamarack forests of Lake Winnipeg will be invaluable. When the navigation of the Red river is perfected so that barges can come through without unloading their cargoes, the increasing demand that the coming years are sure to bring will certainly develop a great traffic southward.

PINE lands in Minnesota and Wisconsin which had been denuded of their timber, and were, consequently, considered practically valueless, are now being bought up by a syndicate which proposes to put colonies of settlers upon them. The result is that instead of desolation following in the wake of the lumberman, prosperous communities are being formed. Several of the older lumber companies have followed this system from the start, with the best results.

ACCORDING to the Annual Report of the Bureau of Industries for the Province of Ontario, for 1887, which has recently appeared, workmen in lumber mills are shown to work the longest hours, the average per week being 65.83 hours; Railway employees (road) come next with 64.25. But in wages, no less than ten classes of workmen exceed the saw mill hands. The total average yearly earnings of a mill hand, including extra work and wife's and children's earnings, is set down at \$331.03, and the cost of living \$337.63 so that somebody must be getting into debt. The average number of days work is 207.93, so that the presumption is that the mill hand occupies much of the balance of the working days in other occupations, the remuneration from which is not included in the statement.

PARTIES consigning lumber to New York dealers have for years complained of the treatment meted out to them. Many of the mill men declared that the "skin game" of the dealers was ruining them. Private inspectors, employed by the dealers, worked strictly in the interest of the dealers, and if the consignees grumbled at the result of the inspection they were told that they might take their lumber away, but meantime the charges against it would have accumulated to such an extent that it was better to let it remain and accept the inevitable. Continuous agitation by the lumber journals led to the formation of a trade organization and the adoption of rules for inspection. This mended matters a little, but lately the methods of this organization have reverted to the old condition of affairs.

It is a shame, says the Parry Sound *North Star*, the way many of the most beautiful islands of the Parry Sound Archipelago are being burned over and destroyed, greatly marring the beauty of the scenery as well as rendering the islands burnt over utterly valueless. The editor of that journal, in company with others, near Moose Island, came upon a deserted Indian camp, from which the Indians had but a short time previously departed, leaving their camp fire burning. The fire had communicated with a dead tree and was rapidly spreading over the island, and would doubtless have destroyed it but for the timely arrival of the party, who promptly extinguished it. While it is true that Indians are very careless many of their white brethren are equally so. The local Government should appoint one or more fire-wardens during the dry season for the purpose of extinguishing fires and detecting and punishing parties who are the means of starting them.

In answer to the questions of a reporter the other day, a New York ship-carpenter gave a long and interesting list of the various kinds of wood entering into the construction of a wooden vessel. According to this authority the keel is made out of white oak, although rock maple, yellow birch and southern black gum are sometimes used; the keelsons are of yellow pine, sometimes of hardwood; the ribs of the frame are oak, chestnut or tamarack; the stern and sternpost always of white oak; the apron, inside the stern, live oak; the planking, exterior of the frame, yellow pine; the ceiling, the interior of the frame, yellow pine; the transoms and knees hackmatack and white or red oak, formerly live oak; the deck frame, yellow pine; upper deck, white pine; lower deck, yellow pine; rails and all finishing timber, white oak; tree nails, with which timbers are dowled together, yellow locust invariably; house or cabin, white pine, whitewood, or fancy hardwoods—the interiors are generally finished to order, and may vary—the deck, bowsprit and masts are always made out of Norway pine; spars are always of spruce; steering apparatus—wheel—various hardwoods; rudder of oak, rigging parts in wood, tackle blocks, white ash or gum, mast-hoops, oak; dead-eyes, etc., lignum vitae; belaying pins, oak or hickory, and the fids always of hickory. In most modern vessels the list, when made to include all the different varieties which may be used in the finish and decorations, would probably be much larger.

MANY towns have risen rapidly through the lumber trade centering in them, and have fallen and gone to decay with equal, if not greater, celerity, when the decline in the timber output has been felt. The ephemeral character of "sawdust cities" is not, however, an unavoidable necessity. While some places have fallen back into a state of primitive poverty through the removal of the mills and money to other places, there are still many towns which while they largely owe their prosperity to the lumber trade are not at all likely to collapse when, in the nature of things, lumber manufacturing operations in their neighborhood are curtailed. When lumbermen and others who have profited by the lumber business have invested to a considerable extent in local improvements, their interests have become so identified with those of the town that they must, as a matter of self-protection, endeavor to make the place self-supporting when the lumbering boom is a thing of the past, thus assuring a growth that is permanent and not dependent on the lumber yard or the saw mill. The recognition of the necessity of this course has caused that competition among lumber towns for the establishment in them of new and prospectively lucrative enterprises, which are not dependent on the existence of contiguous pine forests or a flourishing lumber trade. There are, of course, towns which, comparatively speaking, always will be lumber towns, but the competition we speak of, even in such places, is an indication that the beginning of the end has been foreseen, when lumbering will cease to be the only, or even the main, business to contribute to the wealth and advancement of the community.

THE English lumber markets during the latter part of the season have slowly but materially improved. The demand has kept the dealers' stocks down to small proportions, though they were constantly replenished. In the London markets dealers were evidently under the impression that prices would fall still lower, and, consequently, held off, but as the season advanced, quotations not only held their own, but rose, and higher prices were asked and given. There is now little probability of a weakening, as stocks are very low and freight rates continue very high, so much so, indeed, that several Canadian contracts had to be cancelled, particularly of spruce. The arrivals from Swedish ports, St. Petersburg and the White Sea, have been about the average, and some cargoes of pitch pine from Montreal, Metis and Pentecost have been disposed of. At Liverpool a very large quantity of Canadian spruce has been received, and the price for this valuable timber has steadily advanced. At Glasgow, Quebec shipments have been finding a more ready sale, and prices have accordingly advanced. On the whole, the prospect is very encouraging for Dominion shippers, the main drawback being the heavy freights charged. The hardwood market also furnishes an encouraging report, showing a decided tendency to improvement. Owing to the steady demand the stocks held are not heavy. The cabinet manufacturing industry, in particular, is being carried on on a large scale, and the general furniture trade has been doing fairly well. The manufacturers of coaches and carts and railway rolling stock have had large demands for their output, and, consequently, the volume of trade in this direction has been extensive. The very wet weather of the summer season operated very adversely in the matter of house-building, the demands in this direction not being at all equal to anticipations. This refers to new buildings, for in the direction of improvements, etc., there has been no falling off. The ship-building trade has been in a remarkably healthy condition, and the Clyde ship-builders have been in full swing, and with orders still coming in. This is also true of all the West Coast ship-building trade. There is more animation also in this line at Leeds, Huddersfield and Halifax. As regards prices, the upward tendency is slow, but the improvement in this direction is steady.

In an article headed "Save our Forests," the *Nova Scotian* of Halifax, says that it is disposed to agree with the opinion advanced that the success of the Joggins raft is likely to stimulate the work of wholesale devastation in the Maritime Provinces unless some effectual means of restraint are adopted. "The prospect," it says, "is not one to be contemplated with out strong misgivings for the future of our forests. The question is what sort of restraint is to be employed. We do not believe in export duties, but we think it is possible to apply some law at will, while not interfering too much with a great and important industry, have the effect of saving our forests from absolute destruction. We save our lobster fisheries from exhaustion by legislative regulation, and why may not our forests be kept alive by the same process? It is a matter of self preservation and should be of as much, if not greater, interest to those directly engaged in the business of lumbering as to the general public." A writer in the *New York Journal of Commerce* calls attention to the manner in which the lumbermen are destroying the forests in the White Mountains. Por-

table saw mills are moved up and down the slopes, and the work of slaughter is carried on without the slightest regard either to economy of the rich but not inexhaustible stores, or the effects upon the climate, fertility and beauty of the country. The same agency has wrought great havoc in the forests of the New England States, and is doing a large amount of damage in New Brunswick and Nova Scotia. These portable saw mills are simply forest killers, when used recklessly. Young and half-grown trees are sawn up as well as those of full growth, involving fatal results to the future. It is a common thing for the owners of these mills to pay so much for the timber on a given area of land, and then they strip it bare of every stick, large or small, that can find a market for any purpose whatever. If no check is put upon this sort of thing, before this generation passes away there will hardly be a decent stick of timber left in Nova Scotia. In some localities in that province a few years ago, timber was plenty, and now there is scarcely enough left to build pig pens with. The local legislature passed a law a few years ago for the purpose of preserving the forests from destruction by fires, as far as it is possible to do so. There would be difference of opinion about regulating the use of portable saw mills, or doing anything else that would interfere with those engaged in lumbering, but it does not follow that the subject should not be dealt with. It is a very important one and demands thoughtful consideration.

NOVA SCOTIA TIMBER LAND.

A Nova Scotian correspondent of the *New York Lumber Trade Journal* says that the successful arrival of the great raft of Spruce logs from Nova Scotia at the port of New York will, no doubt, give increased value to the lands situated on the shores of the Bay of Fundy, the timber from which can be delivered cheaply at the seaboard in such a position as will admit of the construction of similar rafts. From \$1 to \$2 per acre has been about the value of ordinary Nova Scotia timber lands which were prized merely for the wood which grew upon them.

The Spruce which grows in Nova Scotia is of a very strong and lasting character. It is Black Spruce, and for all purposes where strength and durability are concerned, is much superior to the White Spruce of the Upper St. John. Nova Scotia Hemlock, which is an abundant wood there and of which little has yet been exported, is of excellent quality. This is especially true of the long, clean and smooth White Hemlock which are found growing near the banks of the rivers there. I have such trees in that province holding their size as well as any Spruce which I have ever seen, and attaining an equal height in proportion to the diameter at the base.

That part of Nova Scotia which is productive of timber has commonly a soil of little value for farming purposes, being often but a mass of small boulders which have from time to time, in prehistoric ages, been carried down from the granite belt which, running in a northeasterly direction, extends through the whole length of that province, forming a sort of back bone upon which the ancient gold bearing states of Nova Scotia, which form an area of 3,000 square miles, rest. The little soil which covers these states is ordinarily poor, and fire has destroyed much of the timber which grew upon this district which had been remarkable for the quantity which covered it.

Should the transportation of logs from the provinces to the United States become a permanent business, there is no reason why the excellent Hemlock of Nova Scotia should not be transported there in the same way. The same will apply to pulp wood of any kind.

Hardwood of various kinds and of excellent quality are found in great abundance in various parts of Nova Scotia contiguous to the sea, and there is also no reason why rafts of Spruce should not have a proportion of hardwood built up in them, so that the specific gravity of the latter wood should be counterbalanced by that of the much lighter Spruce.

The lumbermen who now bring rafts of Birch timber down the St. John take care to secure to the rafts a sufficient quantity of soft wood logs or timber so as to render the whole raft so buoyant that it is easily transported at the mouth of the river.

THE UNITED STATES FORESTRY REPORT.

Mr. Fernow, chief of the forestry division of the United States department of Agriculture, has issued his second annual report which not only contains a brief account of forest conditions and interests in each State, but some advice on the pursuance of practical forestry. Among other things he says that the lumbermen in the States are using up the natural wood crop at a greater rate than it replaces itself. Even the "lumberman's" papers, which had ridiculed the very idea of a possible diminution of supplies, have begun to change their tone and, with the exception of some reckless advocates of a policy of extermination, begin to realize that the interest of the great lumbering industry would be subserved by a more careful and