

LUMBERING IN MANITOBA.

The *Winnipeg Times* says:—Winnipeg has many industrial agencies that materially assist in increasing her wealth and development, and it may be surprising to many to learn that her lumber trade forms the most important of these auxiliaries. Year by year the trade has been growing until now it has become of astonishing magnitude. A few years ago the lumber trade of Winnipeg could be summed up in a few million feet, but now it is found to amount to hundreds of millions of feet. A few years ago, also, a couple of hundred men were sufficient to carry on the trade, but now nearly one thousand men are employed. Such has been the rapid development of this valuable industry; but it will not stop here, for on every hand new lumber firms are springing into existence, new saw mills being erected, new timber limits being surveyed and secured, and those at present engaged in the business are increasing their facilities in order to keep pace with the demand. The above is strong evidence that lumbermen anticipate a much larger trade than ever in the future. Those already in the business report that the trade increases monthly, and this year it will be a third greater than that of last year. As a circulator of money there is no other industry existing in the city that equals the lumber business. The statement given below, which was obtained from the lumber dealers by a *Times* reporter, and which includes all classes of building material, shows that 203,800,000 feet of lumber is handled annually in the city. This lumber is sold at prices varying from \$30 to \$70 per thousand feet, according to quality. If the above amount of lumber was sold at \$35 per thousand feet, the sum of money distributed would be enormous. The lumber trade of this city is also the greatest employment bureau, excepting the C. P. R., in the country, nearly 1,000 men being employed in its operation. These men receive wages averaging from \$2 to \$3 per day during the whole year. There is not a line of business in the country that is not benefited, either directly or indirectly by this great source of wealth. Already this season the dealers of this city have sold 100,220,000. Half of the lumber handled by our local dealers is consumed in the city, and the other half in province and territories. Below is a list of the principal dealers, and the amount of lumber they handle annually, the amount they have already handled and the number of men they employ:—Jarvis & Berridge deal extensively in and manufacture all kinds of lumber, pine, spruce and hardwood, lath, shingles, doors, sash and everything connected with this line of business. The firm has in operation two saw mills, having a sawing capacity of 50,000,000 feet per year, in connection therewith they operate a large sash and door factory, which consumes annually about 10,000,000 feet in the manufacture of doors, sashes and other fine work. Besides this firm has handled since the commencement of the present season 15,000,000 feet of lumber. In conducting this business 150 men are employed during the whole year. Brown & Rutherford have two saw mills and one planing mill in operation, manufacturing all classes of lumber, doors, sashes, lath, etc. One saw mill is situated on Lake Winnipeg, and saws annually 20,000,000 feet of lumber. The other mill is established in the city, and cuts, per year 3,000,000 feet, mostly goes through the planing mill, with over 2,000,000 feet of imported lumber of the better class for doors, sash and other kinds of building requisites for which fine timber is required. During the present building season this firm has disposed of about 11,000,000 feet of lumber. On the average seventy-five men are employed by the firm all year. Dick & Banning own three saw mills, which during the sawing season are constantly working. These mills will cut 35,000,000 feet of lumber this year. About 3,000,000 feet of this will be used in making doors, &c., besides 5,000,000 feet of fine lumber which the firm imports. Dick & Banning have already sold this season 15,000,000 feet. The firm has at all seasons of the year 150 men on their pay roll. Shors & Davis operate a saw mill at Lake Winnipeg, and import largely all kinds of lumber. Already this season they have handled over 4,000,000 feet, and before the year closes they expect to handle as much more. They employ, on the average,

60 men during the entire year. Plews & Mann commenced business about the first of June last, and since that time 2,000,000 feet of lumber have entered and left their yard. This firm imports their whole stock. They deal in every description of building material, and employ 15 men. B. C. Kenway consumes 2,000,000 feet of lumber yearly in the manufacture of doors, sash, &c. He imports solely. He has also sold 2,400,000 feet for building purposes since last spring. Fifty men are employed steadily in the yards. D. Sprague has thirty men in his employ, erecting a fine saw mill on the banks of Red River. He has imported and disposed of 620,000 feet of lumber within the past four weeks. When his mill is completed 50 men will be employed to operate it. Boyd & Crowe handle the entire cut of the Keewatin Milling Company, which represents 12,000,000 feet per year. During the present season this firm has sold 9,000,000 feet of lumber. The Keewatin Milling Co. employ 125 men at their mill and in the woods. Hugh Southerland & Bro. carry on an extensive business as wholesale and retail dealers and manufacturers of lumber. They handle the cut of three saw mills which amounts to 60,000,000 per year, and they have sold more than half of that amount since the beginning of the present building season. They have also imported 8,000,000 feet from the States and other places. The average number of men on their pay-roll is 200. D. Patterson operates one of the largest sash and door factories in the city. In the manufacture of doors, flooring and other material, 50,000 feet of lumber are consumed weekly, or 2,400,000 feet annually. Mr. Patterson has in his employ 150 men, part of whom work in the factory and part on building contracts, which this gentleman also takes in connection with his other business.

The above do not include all the lumber firms in the city. There are a number of other more obscure firms of recent birth, which have not yet branched out to any very noticeable extent. A rough estimate places the amount lumber these small concerns have handled altogether this season at about 2,000,000 feet, and the number of men employed 100.

PROF. SARGENT ON FOREST PROTECTION.

The *Northwestern Lumberman* says:—In the current number of the *North American Review* Prof. Charles S. Sargent has a paper on "Protection of the Forests," which evinces thorough general observation of the subject. He takes a discouraging view of the capacity of rapid reproduction in our native forests. He says:— "It is not improbable, in the light of recent scientific investigations, that even so recently as the time when some of the immediate ancestors of the trees which form the forests were growing, the whole interior region, now believed to be gradually drying up, enjoyed a more abundant rainfall than it now receives, and that these forests thus originally grew under more favourable conditions than at present. If the hypothesis is correct, it will be easy to understand why, under less favorable circumstances, their reproduction will be difficult. The interior forests at the north may be expected, however, thanks to the present rainfall of that part of the country, to reproduce themselves slowly; but so slowly must this process go on, that, judging from the age of existing trees, many hundred years will have passed, if these forests are destroyed, before their successors can attain sufficient size to be of economic importance. Through all the southern part of the interior region the struggle for life has been so severe that the stunted groups of trees, which barely deserve the name of forests, have only succeeded in finding a foothold in the high canons about the heads of the scanty streams. The age of some of these small trees is immense; few young trees are growing up to replace those that perish in the course of nature; and once destroyed, the reproduction of these forests is so doubtful, or must at least be so slow, that the possibility of it, even, need not be considered in any practical discussion of the question."

Prof. Sargent's views as to the ability of our forest land to reproduce trees rapidly will hardly stand the test of observation. On a recent visit to his native county in New York the writer was powerfully impressed with the fact, heretofore alluded to in these columns, that the

second growth of maple, cedar and other woods has been very rapid in the last twenty years—so much so that the doings of the Forestry Congress at Montreal, from which the writer has just come, appeared as though they had no essential motive; nature and the good care of the land owners were doing a practical work that the forestry agitators were essaying on paper and on the platform. As a matter of fact the forests of many parts of New England (we have the supporting testimony of Dr. Loring) and New York, and doubtless of all the other forest bearing Middle States, cover as much area as they did 25 years ago, and more trees are now standing on a given area than there were a quarter of a century since. It was our observation, too, in the state of New York that the owners of forest lands fully appreciate the situation, and instead of there being a waste of timber, there is an economy of it, farmers often valuing their timber more highly than any portion of their free-holds. This feeling will doubtless grow as the demand for all merchantable woods increases. It will be a question of economy of available wealth, and will be determined by selfishness, the same as any other practical economical question is determined.

Prof. Sargent revorses the popular theory that forests produce rainfall, and insists that rain produces forests. Probably he is right. It has been our observation for years that rain-storms, like all meteorological changes, are wide sweeping, and determined by nothing of a local character. A storm will often sweep over the entire western states, taking in forest and prairie, and no topographical peculiarities of localities make any difference with the progress of the wind, clouds, rain or snow. It is the same with the great storms that sweep along the Atlantic coast, such as recently denuded New Jersey and New York. The ocean and mountain ranges have more to do with determining storms than anything else, forests having very little effect. Long continued droughts as often occur in forest countries as on the treeless prairies.

Prof. Sargent's proposed remedy for the waste of forests in the older states is by state legislation, as forest lands in those states has passed out of the hands of government. This legislation should be designed to prevent forest fires, to check the recklessness of lumbermen, to stop the roaming and browsing of cattle—all destructive of forest growth, both old and young. He thinks that wherever the general government still controls forest area, notably on the Pacific slope, positive measures should be adopted to prevent a wanton waste of woods.

Prof. Sargent concludes his paper as follows: "Looking, then, over the whole field, it is seen that the forests of the country, with a single important exception, are still capable of large production. It is evident, however, that grave fears should be felt for their future extent and composition; that in all the eastern and central states regulation is required to protect the forests from fire and indiscriminate pasturage, and that in the interior Pacific region experiments in forest protection could, perhaps, be wisely undertaken, unless this region is to be entirely stripped of its forests. All protective legislation, however, will fail to accomplish the results expected from it unless backed by popular belief in the value of the forest. Such belief will come only with a better understanding of the importance of the subject; and the American people must learn several economic lessons before the future of their forests can be considered secure. They must learn that a forest, whatever its extent and resources, can be exhausted in a surprisingly short space of time through total disregard, in its treatment, of the simplest laws of nature; that browsing animals and fires render the reproduction of the forest impossible; that the forest is essential to the protection of rivers; that it does not influence rainfall, and that it is useless to plant trees beyond the region where trees are produced naturally. When these lessons shall have been learned, forest protection in the United States will be possible, and can be made effectual."

The *Buffalo Lumber World* says:—Our exports of lumber and other building materials to Australia are said to be steadily increasing. They include pine, hickory, ash, and sycamore.

SUBSTITUTES FOR WHITE PINE.

The *American Architect* has the following editorial note on this subject:—

The announcement, made by authority of a Government bureau, that the white pine forests of the United States would, at the present rate of consumption, furnish less than twelve years' supply of that indispensable timber, although copied into most of the papers, has not received the general attention which it deserves, and probably will not until the advancing cost of pine lumber brings the lesson forcibly home to the public mind. This advance, has, however, already begun, the price of pine land in the great timber-producing States having doubled within a few weeks, and the question of the employment of some other material for the coarser uses of building is earnestly discussed among architects and contractors. On some accounts the substitution of hard wood for pine in the finishing of houses would tend to promote their solidity as well as their artistic interest, both of which are compromised by the universal habit of using hard wood only in the form of veneers or casing upon grounds of cheaper material; but a decided progress will have to be made in the art of seasoning and working the timber of deciduous trees before it can be used in large pieces in a way to satisfy those accustomed to the straightness, smoothness, and unvarying character of pine. For framing, spruce and hemlock, with whitewood in the Southern and Middle States, will probably soon occupy the field entirely, and the makers of lath and shingles will perhaps transfer their industry to the forests of hemlock or arbutus. For inferior finish, ash, oak, including many kinds now rejected, chestnut, black birch, walnut and elm may be turned to good account; while for exterior work the deciduous varieties will probably be introduced before long, for the sake of variety, if not of economy, and with them a style of design different from that now practised, to which they are totally unsuited.

WOOD FINISH.

Richness of effect may be gained in decorative woodwork by using woods of different tone, such as amaranth and amboyna, by inlaying and veneering. The Hungarian ash and French walnut afford excellent veneers, especially burls and gnarls. A few useful notes on the subject are given by a recent American authority. In varnishing, the varnishes can be toned down to match the wood, or be made to darken it, by the addition of coloring matters. The patented preparations known as "wood fillers" are prepared in different colors for the purpose of preparing the surface of wood previous to the varnishing. They fill up the pores of the wood, rendering the surface hard and smooth. For polishing mahogany, walnut, etc., the following is recommended:—Dissolve beeswax by heat in spirits of turpentine until the mixture becomes viscid; then apply by a clean cloth, and rub thoroughly with a flannel or cloth. A common mode of polishing mahogany is by rubbing it first with linseed oil, and then by a cloth dipped in very fine brickdust; a good gloss may be produced by rubbing with linseed oil, and then holding trimmings or shavings of the same material against the work in the lath. Glass paper, followed by rubbing, also gives a good luster.

There are various means of toning or darkening woods for decorative effect—logwood, lime, brown soft soap, dyed oil, sulphate of oil, nitrate of silver exposed to sun's rays, carbonate of soda, bichromate and permanganate of potash, and alkaline preparations are used for darkening the wood; the last three are specially recommended. The solution is applied by dissolving one ounce of the alkali in two gills of boiling water, diluted to the required tone. The surface is saturated with a sponge or flannel, and immediately dried with soft rags. The carbonate is used for dark woods. Oil tinged with rose madder may be applied to hard woods like birch, and a red oil is prepared from soaked alkanet root in linseed oil. The grain of yellow pine can be brought out by two or three coats of japan much diluted with turpentine, and afterwards oiled and rubbed. To give mahogany the appearance of age, lime water used before oiling is a good plan. In staining wood, the best and most transparent effect is obtained by