BRITISH COLUMBIA LETTER.

NEW WESTMINSTER, Nov. 25th, 1890.

Dixon & Purdy will likely add shingle mill machinery to their new saw mill near the Mission Station.

A Vancouver lumber firm have just opened a lumber yard at the junction of the Mission-Seattle branch with the C. P. R., and expect to furnish most of the building material which will likely be employed in constructing the new town which is springing up at this point.

Mr. George Munro, of the William Hamilton Manufacturing Co., Peterboro', paid this city a visit during the past week.

Several readers of the LUMBERMAN have been very much amused at the article "Running Circular Saws," by J. W. W., in the October issue, and do not place much reliance on the opinions there expressed.

Capt. George Cooper proposes to make Westminster a salt water port in winter and prevent the formation of ice in the Fraser anywhere near the city. As is well known, a bridge is going to be built from the head of Lulu Island across the north arm to the Westminster side. Capt. Cooper proposes to lay a sill across the river and parallel with the bridge, at low water height, and give it solidity by filling it in with gravel at the base. From a beam slightly above high water mark will depend, on hinges, in the form of valves, a continuous line of stout doors—flood gates, in fact—which will swing open up river, but will close when the tide sets down stream. The salt water from the gulf, flowing in up the North Arm, will be allowed easy ingress to the harbor through the valve gates; the harbor must then fill with the warm, briny water, and when the tide begins to ebb it will be prevented from going back by way of the North Arm and will be detained in the harbor, slowly escaping, if at all, by way of the South Arm. In two or three tides the harbor will become thoroughly salt, and the possibility of ice forming when the water is well impregnated is *nil*. It is true that some of the water may percolate through the barriers at the North Arm, but in too insignificant a quantity to affect the general result. The harbor through this means, says Capt. Cooper, will be kept perfectly free of ice all winter, also the South Arm and the river as far up as the McLaren-Ross mills. The doors, by means of which this grand result is to be achieved, can be taken down in summer and piled out of the way for use during the ensuing winter. The fact of the Japan current flowing continually along the coast and the tidal fluctuations of the river bringing it right up to the city every day during the winter, are the scientific facts upon which Capt. Cooper bases his ingenious scheme. The device, being simple and inexpensive, is worthy of a good trial, but very few have any confidence in carrying it out.

At the last session of the Provincial Legislature the following amendment was passed to the "Land Act:" "Notwithstanding anything in any Act contained, no person shall be entitled to record or pre-empt any land included in any timber lease, if the land which it is proposed to record has on each eighty acres thereof milling timber to the extent of ten thousand feet per acre."

Timber leases are granted for a term of thirty years, subject to the provision, however, prior to the above amendment, that any person might at any time acquire a pre-emption claim to or upon any part of such leased land, by complying with the requirements of the Act; which requirements among other things, prohibited the pre-emptor from cutting any timber for sale, or for any other purpose than for his own use and for the clearing of the same. Both this prohibition and the amendment seem to have been designed for the especial protection and encouragement of the lumber industry, at the expense of the agriculturist. The lumber industry must be protected, but certainly not at the expense of the agriculturist to such an extent as this Act calls for. For example, only three trees the size of a flour barrel (which is very moderate) per acre would come under this Act, and prevent any quantity of land being taken up for farming, and on which, in many cases, the scattered timber would never be cut for the saw mills.

James McL... has returned to Ottawa after fully inspecting his company's property.

There is nothing of note since my last re other mills. They have all the orders on hand they can execute, and are running full time.

H. G. R.

THE FORESTS OF CANADA.

The general interest attaching to forestry in Canada is opportune and hopeful. As the denudation of the forests goes on the necessity for vigorous measures looking to restoration and replacement becomes pressing. The Government has this matter in hand, and under the immediate direction of Mr. John Craig, the experienced and intelligent horticulturist of the experimental farm system, an important work is being carried on. In conversation with *The Empire* recently, Mr. Craig spoke about the work in hand as follows:

The climatic conditions in the interior of and above a forest area are different from those of a large open space in the same locality. This difference is due to the protection of the soil from direct sunshine, and to the increase of the area which radiates heat, to the evaporation of the water from the leaves, and the mechanical obstacles presented to the circulation of the atmosphere—the winds. In consequence, we find in forests a reduced range of temperature—warmer in winter and cooler in summer. It also increases the humidity of the air, especially during the dry months, and gives a more uniform degree of moisture in the atmosphere. Where soil is exposed to the direct effect of the sun's rays and unobstructed sweep of the winds, it loses from six to ten times more water by evaporation than when covered by forest growth. One of the most beneficial effects of forests is that of breaking the force and violence of the winds, which are the great evaporators. The greater the velocity, the greater the evaporating power the wind exerts, and the mere mechanical action of the forest in breaking the velocity of the wind exerts a powerful influence in preserving humidity. When we think of the chinook of the Rocky mountains and the almost unceasing winds of the Northwest with the constant evaporation attending, the question of re-foresting the plains becomes one of vital importance. Again, the effect on springs and the general water supply is important, as the character of the forest floor and obstructions to evaporation from the soil are such that the larger portions of the snow water and rainfall filter into greater or lesser depths, and assist in gradually feeding springs and rivulets. In mountainous districts the forest is of the utmost importance in protecting the soil from being washed away by spring and summer torrents, which often do so much damage to low, as well as high lands.

Forestry differs from other kinds of industrial enterprise from its requiring an accumulation of capital, exposed for a long time to great risks, and from slow returns of the interest on the capital invested in the forest. Therefore, forestry offers but little encouragement to private owners of land. The permanent administration and continuity of action of a government is needed to bring this form of enterprise to a successful issue. It is with this principle in mind that the Dominion Government, under direction of the Minister of Agriculture, has undertaken certain lines of experimental work with a view: First, to induce and encourage a desire on the part of the settler in the colder and more exposed portions of Canada, for tree planting and shelter belts; second, to ascertain by carefully conducted tests in different sections which varieties are most desirable, and third, to plant those varieties of trees best adapted in such as will tend to bring about the more favorable forest conditions as above noted. Of course, this last proposition is one that can only be taken up after the satisfactory solution of the second.

Belts of forest trees, 150 feet wide, have been planted on the north and west sides of the Central Experimental farm, comprising about 10,000 trees. The one on the west side is made up of forty or fifty different species of deciduous and coniferous trees. They have been planted in irregular groups, overlapping each other in different forms, which detracts from the stiff effect that square blocks present. The other on the north side has the same varieties, with the addition of certain hardy shrubs indiscriminately mingled at regular distances—somewhat approaching natural forest conditions. This, when compared with the other, will in time give accurate data in regard to the relative benefits of what might be called mixed and individual planting. Also in relation to hardiness, rapidity of growth, freedom from insect pests, timber value, which may be expected to add much to our present knowledge of timber culture. Thus far, none of the catalpas, honey locust, Russian mulberry and American sycamore have proved entirely satisfactory, suffering from the cold each winter. Black walnut, when grown from northern seed, promises to do well. Trees grown from seed, three years ago and undisturbed, are now six to seven feet high. Box elder, Russian mulberry, black cherry, yellow locust and soft maple *(acer dasy carpum)* are the most rapid growing varieties in the belt; although for economic purposes white ash is one of the most valuable trees to plant.

One of the first things undertaken in connection with this department of horticulture was to obtain a large collection of the seeds of the hardiest Rocky mountain and East European conifers, including the beautiful blue spruces and magnificent firs of the former region, and the hardy forms of Riga and stone pines of the latter. As a product from these collections, about 175,000 seedlings were transplanted from the seed beds last spring and will be reserved, when of proper size, for distribution to points where their usefulness has not been tested. The branch farms, of course, will receive liberal consignments of these, as well as other experimenters who can be depended upon to give careful returns.

For the past two years distribution of trees has been made to the C. P. R. gardens, 25 in number, and situated at different points along the line. The Indian and mounted police stations have also been the recipients of liberal collections during the same period. All these stations, covering a variety of soil and climatic conditions, will very speedily bring such light to bear upon the forestry question in the Northwest as will enable the settler to select with greater certainty the trees likely to be adapted to his locality.

The above work was supplemented last spring by a distribution of 100,000 small forest tree seedlings, of the hardiest varieties obtained from northern sources. These were sent to voluntary applicants in bundles, each containing 100, and were carried through the mails free of charge. Very satisfactory reports have been received as to their condition on arrival and the growth made after planting. The reports to be sent in after wintering will, however, be much more valuable. Arrangements have been completed to continue this line of experiments on a larger scale, and double the number will be sent out the coming spring.

From present experience, the varieties most promising for Manitoba and the Northwest are as follows: Box elder, variously known as Manitoba maple, ash-leaved maple and negundo maple when grown from northern seed. These lead in hardiness and general adaptability. American elm and white ash also do well when grown from Manitoba seed, and show in a marked degree greater hardiness than those raised from eastern seed. Yellow canoe and white birch, as well as the cut-leaved varieties, are promising. American and European mountain ash are showing adaptability to soil and climate in a surprising degree. Of the maples *(acer dasy carpum)* the soft maple and Norway maple are partially successful at Indian Head. The Russian poplars, remarkable for their hardiness and rapidity of growth, are destined to be of great value to the settlers in the western prairie region, where they form shelter belts for tenderer varieties in incredibly short periods. Experiments on the branch farms at Brandon and Indian Head thus far have demonstrated that in the line of shrubs, *eleagnus argentea* and *eleagnus augustifolia*—this last commonly called Russian wild olive—Siberian pea tree *(caragan aarborescens)* and several varieties of the lilac, the Japanese rose *(rosa rugosa)* will also be useful.

—Heathorn & McIntosh have secured the Victoria agency for one of the largest lumber mills in British Columbia, and will carry a large quantity of building lumber.