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NORTHWEST FORESTRY.

The subject of tree planting in the Canadian Northwest, which received considerable attention a year or two ago, has of late almost entirely been lost sight of. The Forestry Association, so far as known, exists but in name, and if any good has been accomplished by it there are no outward indications of the fact.

And yet there is no subject which should engross more attention, having, as it has, not only an important bearing on the appearance of our cities and towns but also on the comfort of the settlers on our prairies.

Our attention has been again called to this matter by a summary which is contained in the last report of the Department of the Interior of a preliminary report of Mr. J. H. Morgan upon the subject of the protection of the present forests of the Dominion and the planting of trees on an extensive scale.

Much of the document is taken up with the question of the preservation of Canadian forests from fire, and does not so particularly concern the Northwest as that relating to the planting of trees. He declares that the climate of the Northwest is one of the healthiest in the world, but it is very dry, and the territory therefore ought to have a large proportion of its area in woods. With this want supplied, there appears some reason to believe that early frost visitations would be avoided, and that one of the elements of uncertainty in connection with agriculture in this country would be almost entirely removed. Mr. Morgan is satisfied that woods would have most beneficial and ameliorating effect on the climate. They would temper the cold winds of the spring and retard the autumnal frosts. It is a well established fact that the atmosphere of the woods in summer is much cooler, as well as moister, during the day, than in open field, and that the reverse is the case during the night. So soon as the sun's rays leave the surface of the earth it chills very rapidly, and often in a dry climate, while the air at, say five feet from the ground, is moderately warm, the temperature of the earth is chilled by radiation, and often goes below the freezing point, while the air, at an elevation of five or six feet, is several degrees warmer. The presence of woods would often avert these early frosts, more especially if the woods occupied the higher grounds. The moist, warm air from the woods would spread over the fields after the sun had gone down, and act as a protecting mantle to the unripe crops, and become the means of averting what otherwise would be an almost certain danger. The drier the atmosphere the more liable are we to refrigeration of the earth's surface; consequently, the greater and the more imperative the necessity of planting forest trees in our Northwest. Of the great necessity of tree planting on our prairies there can be no practical doubt, fuel and shelter being among the first wants of

the settlers. In respect to the contention of some scientists, that the character of the soil of some of the high plains is such that trees will not grow thereon, he cites, in refutation, the experience of the pioneers of the adjoining territories and states, which affords promise of unquestionable success. From the Geological Survey report for 1875 Mr. Morgan quotes Dr. Bell's remarks on the relations of the different classes of soils to the wooded and open areas of the country, to show that the timber is found in those parts where the soil has capacity for receiving and retaining moisture, while those parts which are dry and the soil sandy and gravelly, are, as a rule, bare of timber. One of the greatest barriers to the success of arboriculture on our prairies is want of moisture. So soon, however, as the land becomes broken up, the rains will penetrate and remain on the soil to a much greater extent than at present. In Nebraska and Dakota millions of trees have been planted, and there are now to be seen magnificent groves of trees where, ten years ago, there was nothing but dreary waste. In Minnesota there is a Mennonite settlement where, in seven years from the turning of the first sod, the settlers were enjoying the shade of large groves of trees which they had planted. Similar instances are also found in Iowa.

Mr. Morgan regards the work to be done as one of great magnitude in which the Government, the railroads, the land companies and the people must all take a share. The Government should take the initiative, the first and most essential step being the establishment of experimental forestry stations at several points in Manitoba and the Northwest Territories. The aim of these stations would be to furnish a scientific as well as a practical foundation for a rational management of the forests, to examine the advantages which one method may have over another, and to establish an economical and profitable system of forest administration. Mr. Morgan thinks immediate steps should be taken towards the establishment of these experimental stations, which would be of great benefit to us, and solve many of the problems that otherwise might lead to failure. From these stations could be learned what trees could be grown; their adaptability to the soil; a study could be made of the animal and vegetable foes of trees, and the means to combat them, while reliable tables of increase could be acquired, as well as practical methods for valuing forests. They could also be used as nurseries for raising and supplying the young trees to settlers, and as meteorological stations. Various suggestions are then given as to the selection of sites for these stations, the preparation of land for the planting of shelter belts around them, the preparation of the soil for the planting of young trees, and for directing the progress of the work at the different stations while in operation.

Having shown that the denuding of the country of its trees causes an abnormal condition of the rivers and streams, Mr. Morgan proceeds to inquire whether the reforesting of a fair proportion of the plains would not cause a change in the level of the waters in the Red river, the Saskatchewan, Assiniboine and other rivers now subject to extremes of high and low water, and thinks it may reasonably be presumed that if their banks and the neighboring hills were clad with trees, whose foliage would protect the earth from the sun's rays and from the hot winds, the mosses and porous earth would hold and store the water till it found its way gradually to the rivers, preventing floods, causing a more regular water level, prolonging the season of navigation, and contributing largely to the prosperity of the country.

In concluding his report, Mr. Morgan says it is not too late to repair much of the damage that has been done by the destruction of our forests. Regulations for the use of the timber might be made without injury to the legitimate lumber trade, and the replanting and establishment of artificial forests may undoubtedly be made profitable for private as well as public enterprise. The forests of Manitoba and the Northwest, now being slashed and wasted with great recklessness, should be kept as permanent reserves to supply the wants of settlers, the mature trees only being cut down, and their branches left to litter to the ground, acting as conductors for the prairie fires. All our present forest land should be carefully surveyed, laid out in districts and charted, and the character and profile of the land described. Timber experts or competent wood rangers should be sent to examine, appraise and report on their value and availability. Enough has been shown, Mr. Morgan believes, to make it evident that it is the duty of the Government to adopt immediate measures to arrest the further destruction of our remaining forests, except under some very improved system of supervision; to replant, where practicable, the high lands formerly covered with forest trees, and to adopt some system of forest plantation for the great prairie regions of the Northwest.

In any system that may be adopted by Canada, special care should be taken to make provision for the fullest enforcement of the laws. By this means only can we expect to see our remaining forests protected from utter destruction, new ones produced, and our prairie country beautified with groves and plantations. Almost all the civilized nations of the old world long ago realized the danger that their improvidence and carelessness had caused, and have taken the most thorough and systematic steps towards the protection and reproduction of the forests, and in this have shown a striking contrast to the wastefulness and neglect that have characterized the conduct of those who have had control of the great forests of America. If we would keep

up with the march of progress and civilization of our time, if we would do our duty to the noble heritage with which God has endowed us, we must no longer defer a work which is of such paramount importance and so absolutely essential to our prosperity as a people.—Winnipeg Times.

BELT vs. WALL

Speaking of the prejudice that existed only a few years ago against high speed—speed that would at the present time be considered common, or even slow—an engineer relates his experience in speeding up a large mill engine. The engine being overloaded at its present speed, by his advice it was speeded higher. Upon starting up after the change, there was an unaccountable noise from the belt, which those present attributed to the high belt speed. The engineer being busy about the engine, advised that they look elsewhere for the trouble, and, while still too much occupied to investigate the cause of the noise, about a yard of plastering came tumbling down, filling the air with a cloud of dust, and bringing about a not entirely orderly retreat of every one but the engineer, who had advised the change, and was superintending the starting up at the increased speed. Stopping the engine by means of the governor rod, and looking around, he found that when changing the pulleys on the line shaft the wall had not been cut away sufficiently, and as a consequence that the belt came in contact with a timber, with the result mentioned. Cutting away the wall removed all the obstructions to the increased speed.—American Machinist.

Big Fire at Albany.

ALBANY, N. Y., March 1.—The immense freight depot at the Albany & Susquehanna Railroad on Gansevoort street, 600 feet long, and well filled with freight, was totally destroyed by fire to-day together with 15 loaded cars. It is thought the Delaware & Hudson Company's loss will be \$50,000. About 40 cars were damaged. The West Shore Company owned most of the freight and the Delaware & Hudson Company the greater part of the cars. The West Shore will lose \$50,000, making the loss \$100,000 to railroads. The Albany Aniline and Chemical Works' west building was almost entirely destroyed, involving a loss of 312,500.

Bell Telephone.

WASHINGTON, March 3.—Commissioner Butterworth has rendered a decision in the great telephone interference case of Bell v. Gray, McDonough, Voelker and others. The case involved the question of priority of invention of the telephone. The commissioner affirms the findings of the board of examiners and awards the priority of invention to Bell in all claims of importance.