

AMERICAN FORESTRY CONGRESS.

At the last day's session of the recent meeting of the American Forestry Congress held at Washington, the president, Mr. Commissioner Loring occupied the chair. The early portion of the day was devoted to the reading of a series of papers on

THE VALUE AND MANAGEMENT OF GOVERNMENT TIMBER LANDS.

The first paper was by Mr. F. P. Baker, of Topeka, Kansas, who said that in 1880 the government of the United States still maintained 85,000,000 acres of timber valued at \$2.50 an acre, which would amount to \$212,500,000. The writer referred at some length to the districts in which these lands were situated, and then proceeded to speak of their management, holding the opinion that the extent of the timber lands should be maintained in order that their value may be increased. The forests should be kept, not given away; preserved, not wasted. The timber could be kept growing where it now stood, and be restored where it had been wasted. He concluded an interesting paper by stating that there had been so far nothing that indicated the existence of a plan on the part of the government having for its object the preservation of the forest still under its ownership and control, and making a few suggestions in this connection, among other things that timber lands should be subjected to a different classification from arable lands, and should be surveyed and described; that they should be nowhere sold, as they had been, at \$1.25 an acre; that until the land was sold the timber should be carefully protected from spoliation; that a body of foresters should be trained at the schools of forestry and experimental stations to be established and maintained in different parts of the Union by the general government, and by the agencies also the whole theory of the effect of forests on climate, on the flow of streams, and other kindred matters should be carefully studied and the results be made known to the public.

The next paper on this subject was read by Mr. N. H. Eggleston of Washington, who said that the value of timber lands was of two kinds—first, a commercial value, which varied with situation and its vicinity to market and the demand for lumber, and secondly, their value with reference to climate, etc., that no money could represent. He depreciated the fact that the government had put the same value on timber lands as they did on the land swept by blizzards, and took the ground that the government ought to suspend all sales of timber lands, until they ascertained what needed to be preserved and what needed to be sold. He recommended the adoption of the system prevailing in Canada of selling the timber only and of making such rules for the cutting of the trees as not to injure the trees which were left, and so as to keep up a perpetual supply, and said that any possible expenditure for the purpose of preserving our woodlands would be abundantly warranted. The forest product of the United States was valued at \$700,000,000 a year, and the following statement would show its value in comparison with other products, in the year 1880:—

Forest crop.....	\$ 700,000,000
Indian corn.....	670,714,499
Wheat.....	474,291,850
Hay.....	371,811,084
Oats.....	150,213,665
Potatoes.....	81,062,214
Tobacco.....	36,414,616
Barley.....	30,020,742
Rye.....	18,564,600
Buckwheat.....	8,682,488
Cotton.....	230,260,242
Non precious minerals, such as coal, iron, copper, lead and zinc ore.....	143,394,832
Gold and silver.....	74,490,620

The third paper was by Mr. B. E. Fernow, of New York, who said that the question whether the government should own and manage forests must be answered "Yes," as soon as it is recognized that forest property is not ordinary property, but by its climatic and meteorological influence it becomes property of a higher order, on which the right of eminent domain must be conceded to the state; or, as the exercise of such right will meet with little favor on the part of forest owners, it is advisable that the state should own and manage such forests, as for their general influence upon the agricultural

interest, should be maintained as such. Interesting figures from German forest administrations were adduced to show the value of forest lands there in the way of revenue.

The following motion was then carried unanimously:—

"The American Forestry Congress, having knowledge of the ownership by the general government of 85,000,000 acres of timber lands now exposed to destruction by forest fires started in adjacent private property where the best timber is taken, leaving the tops and brush to feed the fires, which annually spread to the destruction of millions of dollars worth of government timber, therefore,

Resolved, that we deem it the duty of Congress to enact laws with severe penalties for the protection of our forests, forbidding the leaving of brush or tops in our wooded domain, which plan is jeopardizing our most valuable timber.

VALUE OF AMERICAN TIMBER LANDS.

This paper by Dr. Franklin Hough, of the Forestry Division of the Department of Agriculture, chiefly related to the maintenance and production of wood lands by private owners. From the simple and absolute nature of our land titles, the question of forestry in America will hereafter be relieved from many perplexing questions growing out of joint ownership by the public and individuals which often occasion much embarrassment in Europe. The general and the state governments throughout the settled portions of this country and of Canada have conveyed the land to private owners who cannot be interfered with in the management as to planting of forest trees any more than they would be in the raising of grain. It cannot be expected that the owners of land will be influenced by any other motives than their own interests in whatever they may do in the way of planting or clearing, and the first important thing to be done is to convince them of the profits to be derived from the cultivation of broken grounds and waste places and from the starting of woodlands upon worn out fields, as a means for restoring their fertility. The roots of trees strike deep and may reach a soil that is well suited for their growth, although too deep for common grain crops. Whatever tends to promote an interest in rural improvement or the adornment of homes and public grounds, is so much gained in the interest of forestry, and hence Arbor Day, and other measures for interesting the young in these matters, are of great benefit, because the youths now in our schools will in a few years be the owners of all our farming lands. The state governments can aid in various ways, such as the formation of experimental stations, the publication of information, premiums for largest and best results, and exemption from taxation for limited periods. It would be a poor policy to exempt all existing woodlands from taxation, as this would not promote planting. It would give just cause for complaint to the owners of property in other forms. Dr. Hough in conclusion remarked that this was a question of popular education to be promoted by every measure by which an impression can be made.

PRESERVATION OF FORESTS.

Mr. M. C. Read, of Hudson, Ohio, read an interesting paper on "Preservation of Forests on Head Waters of Streams," after which the Congress took recess.

AFTERNOON SESSION.

At two o'clock the Convention resumed, when Mr. R. W. Phipps, of Toronto, the representative of the Ontario Government, delivered an address. He said that he would not, at present, speak of the forestry question as effecting lumber, but of the work in which he had been last engaged, the endeavor to preserve some of the valuable remains of the old forests which are yet found everywhere throughout Ontario. He described the plan, by allowing exemption or bonus to farmers who were willing to preserve their woods and exclude cattle, pointed out its value, and said the Ontario County Councils were about to be communicated with on the matter. He said that other steps were being taken, described the Tree-planting Act, and stated that much was being done by the Ontario Government to disseminate information and form public opinion. He described the manner in which Ontario had been too carelessly de-

forested, and concluded with a peroration on the forest, which we give:—"What a solitude do a few acres of woodland give you, when the massive and embowering trees have shut out sight and sound. You wish an hour to escape the work-a-day world. All around you are the sounds of busy life—the ploughman is calling hoarsely to his cattle as the share turns the dusty summer fallow—the wagons are rattling along the summer road. You enter the gate of your woodland solitude—fifty yards along the red-brown path, thick with leaf and pine cone, and the outside world is gone—a hundred and the solitude is complete. We are apt, in this rapid life, to allow our minds to dwell too much on the pursuit of imaginary pleasures to come, and to forfeit the real ones of the present, among them that chief enjoyment of the cultivated mind—the opportunity in retirement to study the works of nature, to reflect on the reasons of their being and of our own. Here is the opportunity. Many a fallen tree shall afford you a seat, all around will be many a leafy copse and growing thicket, almost seeming in the summer morning exultant in their branching life. High above are the great leaf-filled arches, around you the great rough-barked trees, solid and massive, each seeming to say, as the wind murmurs through its branches, 'See how we serve and wait.' The air you breathe there, perfumed with pine and balsam, has a healthful influence you will not find elsewhere. Its like cools you not under your broad verandah; it passes you not in the open field. It is the home of contemplation—the birth-place of thought. Here thoughts will arise which arise not elsewhere—each vista of leaf and branch will recall memories which come but seldom, and never come without their charm. If you have children to rear, what an adjunct is such a solitude—what an adjunct to the school is the school of nature. The companionship of the forest—the daily walk in its secluded glades—has aided in forming the women who have charmed the world—the men who have ruled it, for every swaying tree and undulating bough gave images of grace and health to the one—and to the other, every breeze that stirred the tree tops spoke of dangers to be risked, of benefits to be won for mankind, of fortunes to be achieved and dignities and honors to be won. And, passing from the personal to the natural view, our population, pouring from the old world to the new, or drawing the first breath upon our shores, have a duty to be performed in this matter which cannot be gainsaid. We received America a land rich in forest, in stream and in fertile land. We know what ruin the deprivation of forest has brought to other lands; we already see, in vast floods here, in failing fertility there, the premonitions of that ruin in our own. Let us remember that we must not destroy the powers of the land to support those who are yet to come. Along the path we tread they soon shall follow. Let us endeavor to stay the tendency to render that path barren and desolate, and strive to leave it as we found it, blossoming with life and fertility, a remembrance to our successors that in our day we endeavored to perform our duty to the land which supported us, a remembrance than which, had we the choice of the wealth of the universe, we could leave them nothing more valuable."

Dr. Vaseg then read a paper on "The Distribution of Forest Trees in the United States."

In the discussion which followed, the advisability at the present stage of making appropriations for experiments on acclimatizing foreign species in view of the large quantity of different forest species in this country, was referred to.

PLANTING OF TREES BY RAILROAD COMPANIES.

Mr. John S. Hicks, of Reesyn, L. I., read a paper on "Tree-planting by Railroad Companies," which stated that the following tables and figures plainly showed that railway companies should plant trees as well as encourage tree-planting. By the latest estimates there were 113,000 miles of railroad in the United States. The forestry department had prepared under the superintendence of Dr. Hough an elaborate report from companies representing 79,889 miles of the roads, which showed that the average number of ties used per mile of road, single track, was 2,640, the size 6 inches

by 8 inches and 8 feet long, average durability 7 years, and costing 35 cents. The kinds most used and the durability of each is as follows:—

	Durability, years.	Cost, cents.	Cost per year of durability, cents.
Oak.....	7	37	5.25
Long-leaf yew pine.....	6½	37	5.00
Chestnut.....	7 3-10	42½	5.82
White pine.....	6 3-5	31½	4.76
Hemlock.....	6 2-5	25	4.34
Cedar.....	6 5-8	36	5.07
Tamarac.....	7 1-5	27	3.76
Cypress.....	8 7-10	29	4.37
Red wood.....	11 1-5	40	3.57

This expense per year does not take into account the cost of replacing the least durable. Very little record is had of the yellow locust, its value having been overlooked, taking into consideration its durability, lasting more than twice as long as other woods and that it holds the spikes so firmly. From the preceding table we learn that the cost of ties per mile of single track road is \$924, and if renewed each seven years, \$132 yearly, or in all the United States \$14,784,000. The yearly expense of \$132 is the same for sidings and branch lines, the ties decaying before wearing out. Computing each tie to contain 32 feet of lumber, board measure, the yearly amount used is 1,340,000,000 feet. The average number cut from an acre is 100 and the average number of years required to grow timber large enough to cut ties 30 years, which would require 12,672,000 acres of woodland to be kept in constant growth, or in other words it requires 113 3-10 acres of timber growth for each mile of single track road, or a strip over 400 feet wide each side of every mile of single track when "double track" a proportionately larger amount. It must also be noticed that our railroad system is far from completion, not only in new countries, but in the older settled portions are now lines constantly needed, extended and built. The ties also are but a portion of the timber used by railroad companies. Fencing, telegraph poles, bridges, and cars take nearly of not quite as much more, and the demand in this direction is constant. The question thus naturally arises, can our country supply the wants? With many roads, the larger distance that ties must be procured from, the transportation will increase the cost to double the amount now estimated, and the supply must end if not replenished by either railroad companies or individuals. The advantages that railroad companies have for planting are that they have many places where the growth would give the roads protection from snow drifts and windstorms, and many waste places along the line of all railroads are suited for nothing but tree-growth, while other railroads own large tracts of lands only fitted for forests. There is but little land that will not grow timber of some kind to advantage, and forestry culture will teach the best kinds for each locality. The question, at any rate, was one of so great importance that the railroad companies should not delay action, and besides the supply, if planted now, could not be utilized before 30 years time.—*Montreal Gazette.*

PRODUCTION OF MAPLE SUGAR.

At the last day's sitting of the American Forestry Congress, which recently held its annual meeting at Washington, Dr. Franklin B. Hough, of the forestry division, department of agriculture, read a very interesting paper on the production of maple sugar in the United States and Canada, and exhibited a coloured map to represent the relative amount produced by counties as reported by the census of 1880, for the United States and by that of 1880-81 for Canada. It is thus reported to the *Montreal Gazette*: The paper described the various species of maple and other trees affording a sap capable of making sugar—the season, the conditions that favour or hinder success, the primitive methods, and those most approved in modern practice, and statistics from national and state censuses for a long period. The map shows that Vermont, and a broad extent of adjacent territory in the Province of Quebec, afforded the greatest amount of maple sugar; other sections of the country showing a high rate such as certain counties in Northern and South-western New York, the mountains of South-Western Pennsylvania, Northern Ohio, and the north