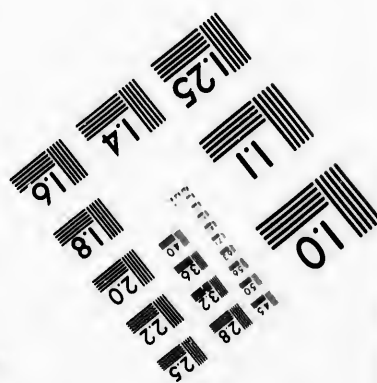
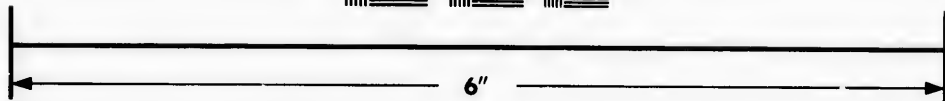
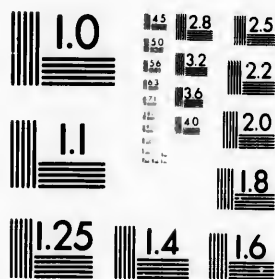


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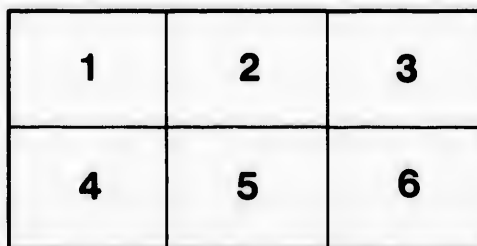
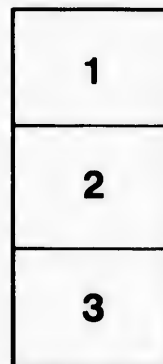
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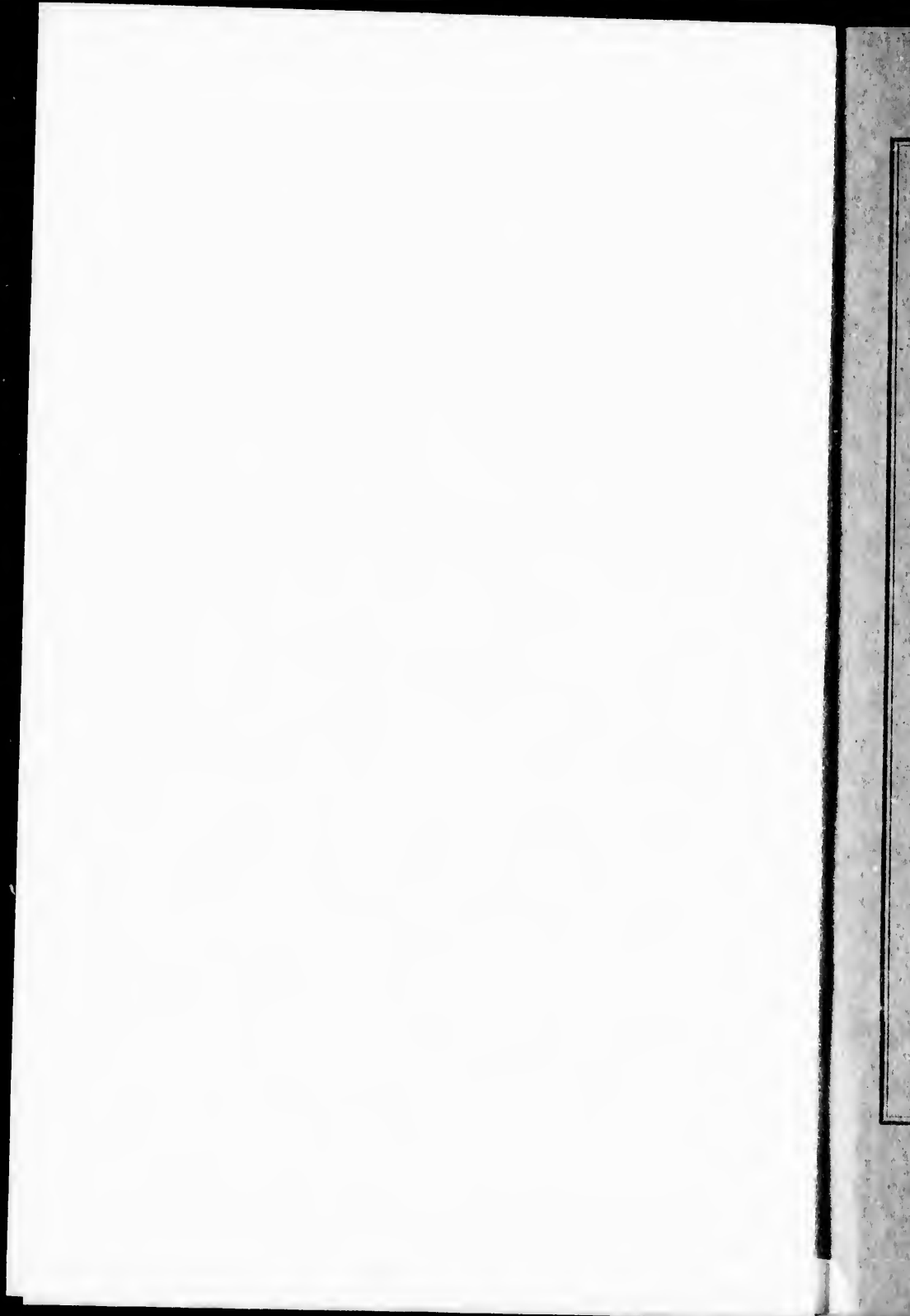
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LETTER

TO THE

PRESIDENT AND COUNCIL

OF THE

MONTREAL BOARD OF TRADE

OBJECTING

"To Get Rid of the Timber."

PRESENTED BY

WILLIAM LITTLE,

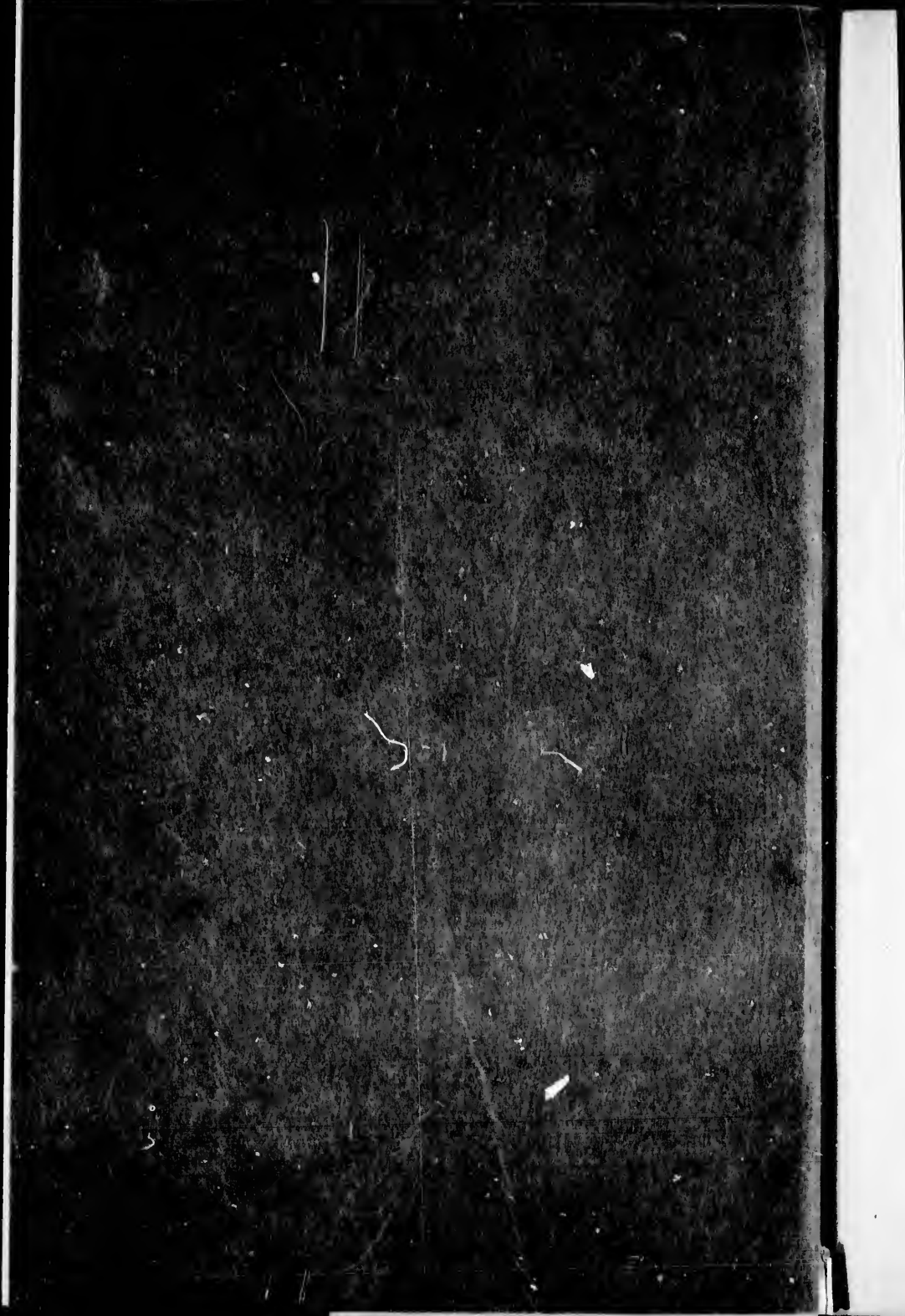
AT THE MEETING HELD ON

JUNE 10, 1890.

Montreal:

PRINTED BY JOHN LOVELL & SON.

1890.



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From the American Forestry Association

(Formerly American Forestry Congress)

I have obtained the following

ESTIMATES OF FORESTRY INTERESTS

OF THE

UNITED STATES:

Acres covered with wood growth, or 26 per cent. of total land area.....	450,000,000
Acres cut over annually.....	25,000,000
Wood consumed annually:	
Timber and lumber, cubic feet....	4,800,000,000
Railroads "	500,000,000
Mining timber "	150,000,000
Fences "	500,000,000
Export "	150,000,000
Fuel "	18,000,000,000
Total cubic feet	24,000,000,000
Value of wood consumed annually.....	\$1,000,000,000
Timber lands belonging to U. S. Government acres.....	70,000,000
Value of timber reported stolen from public lands during seven years.....	\$36,719,935
Amount recovered during same period.....	\$472,073
Saw-mill capacity of the U. S., ft. B. M.....	60,000,000,000
Forest administration of United States Government.....	NONE

To which may be added

FOREST POLICY of the United States and CANADA

"TO GET RID OF THE TIMBER."

*To the President and Council
of the Board of Trade,
Montreal,*

GENTLEMEN :

I desire to call your attention to a subject—
The Timber Question—which I believe to be of the greatest
moment, as affecting every interest in the country, and I am
sure all thoughtful persons must view with alarm the decreas-
ing area of our valuable pine and spruce forest lands, the
decline in quality of the timber itself, and the indifference
with which these facts appear to be considered both by the
Government and the general public. With your permis-
sion, I will endeavor to point out how disastrous it would be
“*To Get Rid of the Timber.*”

I have the honor to be,

Gentlemen,

Your obedient servant,

WILLIAM LITTLE.

Montreal, June 10, 1890.

"TO GET RID OF THE TIMBER."

"To Get Rid of the Timber" was the answer sent from the State of Arkansas, two years ago, to the Michigan State Forestry Commission when inquiring about that State's policy respecting its timber!

Yet, strange as it may appear to many, this is the exact answer that would have to be given to-day, if properly replied to by either the Government of the United States or Canada, as whatever policy they have had (*whether of one political party or the other*) has hitherto been simply "to get rid of the timber." The United States parted with its land, having tens of thousands of feet of the finest timber per acre, on exactly the same terms as that having no timber whatever. While Canada sold its land and timber in like manner, and granted timber limits in areas of 50 square miles each and to the extent of thousands of miles at a time, at merely nominal rates, to such of its constituents as might desire this concession, till, at the present moment, it has little of any immediate value left. This being the manner of disposal of such property by the Government, one can readily conceive why it is difficult to create any interest whatever in the preservation of timber property. Moreover, when we consider that only a few years ago the great obstacle to contend against was the size and quantity of timber necessary to be removed, in order to locate a home in the wilderness of trees and to make way for the plough and the reaper, it is not to be wondered that this should be the case; but, now that the railways have spanned the Continent and demonstrated the fact that the country is, on the whole, a prairie, and treeless one, rather than a wooded one—that the timber is peculiar to the coasts, lakes and water courses, while the vast interior is bare of timber—coupled with the further knowledge that this originally vast wooded area, extending from Maine to the Mississippi, can now show "but a few scattered remnants" of its once great wealth of timber, one would naturally expect more intelligent consideration of this important question.

Not so, however; in both countries "to get rid of the timber" is still the first order of the day, and the same policy, or rather want of policy, as regards timber exists—each, in its own way, being equally negligent or indifferent, and equally willing to get rid of the timber. Some slight interest is taken in the subject of forestry—the most momentous question possible as affecting the future welfare of the country—by a few thoughtful persons; but how little effect it has yet had on the consciousness of the general public, or of even our legislatures, is shown, when, in the arrangement of a tariff by the Government of the United States; the direct aim of which is to reduce the revenue

(which is found to be out of all reason in excess of national wants), the duty on timber is not only not removed, but is so hocus-pocussed as to actually increase this duty, as if timber were some noxious thing to be kept out of the country by legislative enactment; when the slightest consideration of the subject would show that a policy of giving a bounty for the import of timber, to any country willing to part with it, would be a far more common-sense one than its restriction by the imposition of duties of any nature whatever, unless wanting "to get rid of the timber;" while the Canadian Government, on its side, also shows how little realization it has of the existing conditions, by actually consenting to remove the slight protective duty of \$2 per thousand on pine and \$1 per thousand on spruce sawlogs, if the United States Government will reduce the import duty on lumber to \$1 per thousand feet—thus exhibiting its too great anxiety to "get rid of the timber"—when a reasonable knowledge of the circumstances would demonstrate that, if an export duty were ever permissible, this is one that has every valid reason for existing, as a measure of self-protection, which should extend not only to sawlogs, but to the manufactured lumber as well. But, yet, the Governments are not wholly to blame in this matter. We are now living under Responsible Governments, which are expected to administer the affairs of the country in accordance with the well understood wishes of the people, and, if the people are apathetic, or careless and indifferent, we can hardly expect members of the House of Representatives at Washington, or the Commons House of Parliament at Ottawa, to make any serious effort in the direction of forest conservation, when they can tell us that they have difficulties enough on their hands to contend with issues about which we are all in earnest, without troubling themselves with questions to which we ourselves seem to give no concern.

But, if we might not hope for a consideration of a subject of such vital importance, from the representative houses of either country, we should look with confidence to the gentlemen of the Senate—who, not being so directly responsible to the people, are thus relieved from the cares and anxieties necessarily connected with representative bodies—for the careful consideration of just such subjects; and one would naturally think, if there ever were a satisfactory reason for the existence of such chambers, it was especially for the discussion of subjects like that now under consideration, and that the question of forestry would be peculiarly suited to and directly within the province of the statesmen of this chamber. But here, too, the same unconcern and indifference appears to exist, and the same will-
ingness "to get rid of the timber."

It is not because this question—the most momentous in its importance that can possibly be conceived as affecting every interest in this country—has not been brought prominently to their notice or that of the public. For years past, my father, and, more recently, myself, have persistently

directed public attention to this subject as one of the gravest character. Memorials have been addressed to the United States Congress and the Canadian Parliament. The question has been fully and ably discussed by intelligent men of both countries; and, notwithstanding the imminently serious condition of the situation is fully confirmed, whenever any investigation has been made; yet the Governments of both countries I was going to say "do nothing." No—worse than that—each does its best "to get rid of the timber"—that of the United States by imposing a restrictive duty on lumber, and that of Canada by lowering the export duty on logs.

The alarming condition is now painfully apparent to the most casual observer, who will contrast the character of the timber manufactured at the present time, running largely into the different grades of culls, with the magnificent black walnut, black cherry, butternut, chestnut, hickory, buttonwood, whitewood, black and white ash, red and white oak, red and white pine, which, when not used for fencing or fuel, were burnt up in the log heaps of Ontario in Canada, and in New York, Pennsylvania, Ohio, Indiana, Michigan and Wisconsin in the United States, only a few years ago, and which, when manufactured, the product thereof, ran largely into the grades of selects and clear lumber; and, while this matter is hardly given a thought by any one, we are almost face to face with a problem that must be quickly solved, or disastrous results will surely and speedily follow.

New lines of railway are being built, or extended, into districts, dependent almost entirely on the timber trade for business—the carrying capacity of the Lake marine is being increased at an enormous rate—cities, towns, and villages, depending largely on the lumber industry, are enlarging their borders, as if the supply were inexhaustible. But timber cannot be grown like a crop of corn—its growth is a matter, not of years, but of ages, and when once gone, cannot be restored during the lifetime of those now living, while the really good timber of the north Atlantic and Lake region is not only not inexhaustible, as many suppose, but actually about exhausted.

Beginning at the north Atlantic seaboard, the lumbermen started in to procure that most valuable of all timber, the incomparable white pine; and, after exhausting the original forests of the New England States and coast region, extended their operations through northern New York, Pennsylvania, and Canada, till they finally settled in that paradise of the lumberman, the States of Michigan, Wisconsin and Minnesota, and here their crusade terminates, for they have now reached the confines; and one can realize with what relentless energy they have pursued their victim, when we consider that the amount of this timber converted into lumber the past season, from this section alone, reached the enormous aggregate of 8,305,833,277 superficial feet (according to the admirable compiled statement of the *Northwestern Lumberman*)—an amount equal to two-thirds of the entire cut of all descriptions of timber in every State in the Union but twenty

years ago (the census of 1870 returning the whole lumber product of all kinds in every State at 12,755,543,000 feet), while the cut of shingles last year, in the same region, was 4,698,975,800 pieces, made almost exclusively from white pine, which, if added to that sawn into lumber, would make the total consumption of this timber from that section alone fully 9,000,000,000 feet.

But this frightful slaughter of the forests has about reached its end. The 29,000,000,000 feet reported as standing in lower Michigan ten years ago, by the census of 1880, had dwindled to but 3,000,000,000 or one-tenth that amount last year, as was ascertained after investigation by the editor of the *Chicago Timberman*; and if we deduct from the total of 84,170,000,000 feet, estimated by the census of 1880 as then standing in these three States, that cut during the past ten years, which amounted to 74,463,054,858 feet, it would leave only 9,706,945,142 feet remaining, or but one year's stock on hand, an amount that would have been about consumed in making the 41,303,373,085 shingles turned out during that time, so that had the lumbermen confined their operations to the same character of timber as was estimated for the census, there would not be a merchantable white pine tree standing in that whole territory to-day!

But the necessities of the lumbermen compelled the cutting of inferior white pine, red pine, hemlock, basswood, white and black ash, and such other floatable timbers as could be obtained by water, as well as hard woods and pine inaccessible to convenient drivable streams, which are now brought to the mills by rail, or sawn into lumber by mills erected in the vicinity of the timber, so that their operations on a reduced scale may be continued for a short time; but the end is almost at hand. Even to-day, for every mill owner who has five years stock remaining, there are ten who have not one; and their mills are being dismantled—burnt-over stump lands are being again cut over—all floatable timber of every kind is being taken to the mills to be converted into lumber, and they are now making onslaughts on our Canadian pine to keep their, otherwise useless, saw mills in operation. Now, while this has been the result of the operations of the lumbermen in the Northwest, it must not be presumed that those they left behind in the older sections neglected to employ their energies in using up the remaining forests of spruce and hardwoods, for they, too, have been equally successful in their efforts "to get rid of the timber."

The comparatively small amount of uncut spruce ten years ago in Maine, New Hampshire, and Vermont, returned at 7,265,000,000 feet, with an annual cut of 653,281,000 feet, equal in ten years to 6,532,810,000 feet, would appear to leave but 732,190,000 feet on hand, or a little over one year's supply; and the spruce in the Adirondack region of New York, estimated ten years ago at 5,000,000,000, with a limited amount in the mountain districts of Pennsylvania, has now been pretty well harvested. So that in this whole vast territory it is now really hard to find any considerable area

of country from which the good merchantable white pine and spruce timber have not been removed!

I trust I may be pardoned if, in what is hereafter stated, there may appear what has elsewhere been mentioned by me; but my object will have been attained if, by any means, any interest whatever may be aroused in this—the most momentous question we may ever be called upon to consider; for, as was truly said in a leader in the *N. Y. Sun*, when urging the United States Congress during the Session of 1882-3 to remove duties from Canadian lumber: "No more vital question can come before Congress. Perhaps no Congress has ever been called upon to decide an economic question of greater moment." This sentiment was fully endorsed by nearly the whole metropolitan press, the *Times*, *Herald*, *World*, *Post*, *Nation*, *Advertiser*, *Bulletin*, *Star*, *Witness*, *Record*, even to *Puck*, expressed almost similar views. So strong indeed was the sentiment on this question, that when brought to the attention of the Senate, notwithstanding the recommendation to the contrary by the tariff commission, it almost unanimously agreed to put all forest products on the free list. No sooner, however, was this known than there was a general stampede of American lumbermen to Washington, who urged the late general, then Senator Logan (a gentleman respected by all parties, but whose knowledge of this question about equalled that of another distinguished general's knowledge of the tariff, which he is said to have remarked, "was but a local issue anyway") to have these duties restored. Thus by using the personal popularity of General Logan, by misrepresenting the existing condition, and the use of the means which their enormous wealth enabled them to employ, they succeeded in their purely selfish and unpatriotic efforts in getting these pernicious duties restored to the tariff bill then under consideration; and they are now again at work trying to manipulate the present bill, as they have done every preceding one, as if these petty duties were a matter of any moment to them or anybody else, except in their evil effects, in preventing, so long as they exist, any honest expression to be given by the great lumber journals of the true conditions of the forests of the country, lest a knowledge thereof should arouse a demand on the part of the public for their removal; and they care not what disaster may befall the country, so long as they can keep on these duties and "get more timber and cut more logs."

When considering this question, I take great pleasure in saying that I never had anything but the most courteous treatment from the gentlemen of the press; whenever I have approached them they have always been ready to give me their attention to the discussion, and their space to the exposition of this important subject; but as newspapers are not usually run successfully on pure philanthropy, and as the public seems to prefer knowing who made the best score at the last ball match, or such other important matter as the style of Miss Spangle's new bonnet—the press

must supply such news in preference, and the timber supply having been heretofore considered a matter for posterity, "posterity having done nothing for us," why should we trouble ourselves for posterity? Now, however, that the issue is immediate, let us hope for its consideration by the public, the press, and the Government.

The *New York Nation* thus referred to this matter in January, 1883:—

"The country is not without words of warning in regard to the dangers which threaten the forests; they have been spoken far and wide. In the meantime we continue to take \$2 from the pocket of every man using a thousand feet of pine or spruce lumber, and hand it over to the manufacturers as a bounty to induce them to destroy the forests more rapidly. It is natural, then, that the manufacturers resist any attempt to have this duty removed. They will make a still more determined fight to prevent it. They are bold, rich, and united. They are actuated by a single purpose—to convert the greatest amount of forest into the largest amount of money, in the shortest possible time. Their organization is perfect. They control Legislatures, and elect members of Congress; they own Governors and Senators. They know what they want and they mean to have it at any cost, and without regard to the future prosperity of the country. We repeat, the tariff duty on lumber is a premium on the devastation of the country, and should be repealed without delay."

If we take in the whole extent of country from Maine to Minnesota, separated only from Canada in some parts by an imaginary line, and in others by a few miles of intervening water, we will find that the U. S. imports from Canada hardly ever exceed 600,000,000 feet a year, and which is more likely for the future to fall off than otherwise, an amount but 3 per cent. of the yearly consumption of lumber in this section alone, and but 2 per cent. of the whole amount annually cut in the United States, we can readily see what little influence it can have, except as above indicated. The fact is that the Canadian supply has of late years been hardly a factor worth considering. Any ill effects the American lumberman has ever experienced have been more from his own excessive greed and his insatiable desire to overstock the market in advance of the reasonable demands of trade, than anything that might, could, would or should be done, by the Canadian lumbermen. That section of the country above referred to produced, in the census year 1880, 12,817,625,000 feet of lumber, being, as it appears, in excess of the whole product of the country 10 years previously, which was in 1870 12,755,543,000 feet, and considering the increase since then, 50 per cent. or slightly above one-half the increase that has taken place in Michigan, Wisconsin, and Minnesota, which ran up from 4,806,943,000 feet in 1879 to 8,303,833,277 feet in 1889, with a similar increase in the output of shingles from 2,859,112,160 to 4,698,975,800 pieces, we have 19,462,437,500 feet as the product in sawn lumber alone at the present time, which, including the 600,000,000 from Canada, makes a total of 20,026,437,500 feet, so that the Canadian proportion, as is said above, reaches only 3 per cent. of this amount, or but 2 per cent. of that of the whole country, which must now be fully 30,000,000,000 feet of sawn lumber.

Professor Charles S. Sargent, special agent of the United States Census, 1880, in his admirable and comprehensive Report of the Forests of the United States, placed the value of the lumber, fuel, and other forest products, of which he was able to get fairly accurate returns, at \$490,073,094, and concluded that, if the complete returns had been obtained, it would be found to exceed \$700,000,000, so that we may safely consider these products at the present time to amount to more than \$1,000,000,000 in value, at primary points of production—a sum that equals the whole United States crops of wheat, oats, barley, rye, potatoes, cotton and tobacco, and one-third greater than the whole United States exports of all kinds, including coin, the past year!

Now, the question that should have engaged the attention of the American lumbermen was, how they might have prolonged the existing supply of timber in their own immediate neighborhood for some considerable time; but the question that has occupied their mind was, how to keep out of the country the 2 per cent. coming from Canada—this, and the desire to "get more timber and cut more logs," like that of another gentleman, often mentioned, whose whole aim in life was to "get more land and raise more hogs," may be said to have engrossed their whole attention, for while it may be admitted that they are not averse to make money as an incident in the operation, their whole ambition in life appears to be to "get more timber and cut more logs"; and instead of concerning themselves in the least as to what came after them, as is ascribed to them by the majority of the House Committee of Ways and Means of the present Congress in such imaginary sentimental rot as "taking proper care of his timber lands, now so generally preserved by the judicious cutting of the trees of full growth, at such intervals of time as will preserve the timber reserves," he is still slashing away as if his life depended on his ability "to get rid of the timber." The correct description of the lumberman's actual method is thus described by Professor W. J. Beal, Mich. Agl. College, on the spot, who says: "Desolation follows the track of the lumberman. All of the beauty and most of the value is removed from the land. Where the timber is removed the forests are deprived of vast quantities of young trees, that ought to be left to produce more timber for the future. The lumberman cuts and removes the best, leaving the remainder in condition for the fire to certainly follow and destroy it, and moves on to treat one section or township after another in a similar manner. He is after money, and is often doing little to improve the country in any respect."

But to return to the consideration of the present importance of this question: I have shown above that the whole of this originally heavily wooded area, extending from Maine to the Mississippi, which requires an annual supply of 20,000,000,000 feet of sawn lumber for its own immediate wants, is now about depleted of this great storehouse of wealth which it

originally contained, and I have always maintained that the people of America have never fully realized the enormous value which such a great wealth of timber provided for their use, actually without purchase or production, has had in advancing every industry in this country—a value that can hardly be expressed in figures, but the loss of which will be seriously felt almost immediately in many sections, hitherto largely depending for prosperity on an abundant supply of timber. Few truer words were ever uttered than those of the *Glasgow Herald*, when considering this subject in 1876; it said: "The knowledge we have gained of a dearth of cotton may help us to appreciate 'the terribleness of the calamity' that would be experienced from a dearth of timber in Canada or the States. In point of fact, Canada and the United States are busy sawing from under them that far-reaching, fortune-making branch, on which, like conquerors, they are now sitting and overlooking the world."

The mere money value of this 20,000,000,000 feet as it falls from the saw must be fully \$300,000,000, and if to this we add the large amount of other forest products, such as firewood, round and hewn timber, railway ties, poles, posts, shingles, laths, pickets, pulpwood, etc. (the fuel wood alone amounting to \$150,000,000), we may reasonably expect the whole to sum up more than \$500,000,000 (a sum equal to the whole export of cotton, grain, provisions, animals and tobacco to all countries by the United States last year). This is the amount annually drawn from these forests, and would cost fully double this sum, or \$1,000,000,000, annually, to obtain from any other known source, but no other section of the country has in any great quantity the same valuable timber here referred to, and this is the property about which they give themselves no concern!

Consider for a moment what effect the loss of this timber would have on the single matter of transportation alone. Think of the effect a complete stoppage of timber supplies would have, say, on the city of Chicago,* which now receives annually about one-tenth of this amount, or 2,000,000,000 feet of sawn lumber. Withdraw from the woods the great army of men now engaged in cutting and delivering this timber to the saw mills, and from the towns and villages the employment given in converting it into lumber. Remove from the lakes the traffic in timber and other forest products, and what a hiatus would appear. Take from the port of Chicago the fleet of vessels, frequently numbering nearly 100 in a day, engaged in carrying this timber property, and from the city itself the tens of thousands employed in handling it and converting it into the various uses for which it is adapted. Take away from the railways centering there their proportion of the traffic supplied by this 2,000,000,000 feet of lumber, and the other forest products annually delivered there—an amount sufficient to give ten different lines of railway five trains a day of twenty cars each, for every working day in the year—considerable of this freight going thousands of miles, for, unlike agricultural products,

* See Appendix for Port List.

most of which are consumed at home and do not require transportation, the products of the forest have all to be transported either by land or water to the markets in which they are to be consumed. Take all these away and try to contemplate the altered conditions thereby produced, and the blighting influence on all other industries connected therewith, and you will have but a partial idea of the desolate conditions that will shortly arise, unless immediate steps are taken to in some measure prolong the existence of the remaining timber, for new forests cannot be created in a year, hardly in a lifetime, and, as the Cincinnati *Commercial Gazette* pertinently said:—"As well send out an army of incendiaries and then try to equalize the moisture with a hand squirt, as trying to counteract the effect of this bounty in cutting down the forests, by planting trees."

Knowing such facts, one would fancy that every effort would be made to husband with care what little timber remains; but instead of this, the reverse is the case—ignorance and indifference still flourish in all their strength. Only a couple of days ago I received a lumber journal, actually commending the enterprise of a Michigan lumber concern in ripping up 500,000 feet of pine timber daily, as if the proprietors were fearful lest they might be left behind in the slaughter of the pine, and caught by their neighbors with any stock on hand, and thus be unable to participate in the general massacre. Thus it may be seen, that if the markets of the United States are not flooded with excessive supplies, it is not from any lack of desire on the part of the lumberman, or of the milling capacity either, but rather from a lack of proper material for successful conversion. And at almost the same moment we in Canada are advised of the temporary embarrassment of one of our most worthy great timber firms, owing to the over-production of pine timber for the immediate wants of the trade. All this, occurring at a time when the supply of this timber is about exhausted, leads one to inquire when will the American learn that there is no real necessity for the immediate extermination of the small remnant of white pine existing on this continent. One often wonders if the cutting of timber does not tend to create, like the use of opium, a craving to be satisfied only by still larger doses, when we see the hundreds, yes, thousands of apparently intelligent men that have rushed in to destroy the timber, only to find themselves, in the end, worn out in body and mind, their own money all gone, while some have even gone so far as to use up the whole capital of banks in their precipitate haste "to get rid of the timber."

It will no doubt be said: "What of this? there are still vast forests in the Southern States and the Pacific to be drawn upon." This may be a matter of great value to the South and West, but to the people of the North, who annually consume three-fourths of the sawn lumber manufactured, it is a matter of the most serious consequence.

As has been shown above, the sawn lumber now produced in the North, amounting to 20,000,000,000 feet, probably exceeds \$300,000,000 a year

as it falls from the saw, and to replace it would cost double this sum, or \$600,000,000 a year, even if the same lumber could be obtained elsewhere ; so that in a very short time this section of the country, instead of having a great and profitable industry advancing and helping every interest, will be called upon to pay out hundreds of millions of dollars annually for such material.

But it might be well to consider whether the South and West have that great superabundance over their own requirements, that they should be in any great haste "to get rid of the timber." The impression I formed from visiting both sections is that they have not, and I will here insert some extracts from a letter written by me when in London in 1883, at the request of the editor of *Forestry*, and the sequel will show whether I rightly appreciated the situation or not :—"But our Southern friends are even interested with us in the preservation of this timber, as the uses to which it is applied are so different from theirs, that large quantities are annually sent South, and the Government of Canada, recognizing this fact, admits Southern pine duty free.

"It is further to be hoped that the Southern States may learn a lesson from the prodigality of the North, and preserve their most valuable timber for the benefit and welfare of the community, instead of giving it away to timber-land speculators, or to such an ignorant race of destructionists as have gobbled up (now devastated) the timber of the North, or they too will soon be dispossessed of one of the greatest blessings that Providence has vouchsafed their country.

"When people talk, as they sometimes do, of the inexhaustible forests of the South, they little know the sawing capacity of the Northern mills, which could in twelve months' time convert the whole merchantable Pine of the States of Georgia or Alabama into lumber, and be but six months in using that of Florida or either of the Carolinas. In fact, the mind can hardly realize the enormous consumption of timber going on in the United States; but some idea may be formed of it from a knowledge of the fact, that the single city of Chicago received last year over one million St. Petersburg standard hundreds (about 2,000,000,000 superficial feet) of sawn timber, principally White Pine, an amount about equivalent to the entire receipts of sawn wood of all kinds by the United Kingdom during the same period.

"The entire annual consumption of wood for building and manufacturing purposes can now be but little short of fifty million loads (30,000,000,000 feet). This of itself must show the enormous destruction of forests going on in the United States, and the serious question a loss of its timber must have upon its future welfare. It consequently becomes, in my opinion, the greatest economic question of the day—one before which all others sink into insignificance in comparison.

"When we consider the importance that an abundance of the most valuable timber has had on the past welfare of the country, and come to realize what

'a dearth of timber' means, all will readily see that the foregoing is by no means an overdrawn statement. If we also consider the fact, that every human being in the country must have timber in some form or another for his protection or comfort—that our shelter is of timber, the floors we walk on, the chairs we sit on, the tables we eat from, even our cradles and coffins being of wood—we can readily see how overwhelmingly important is this great question of timber supply. Then, too, the numerous industries engaged in the various processes concerned in the use of this material and the hundreds of thousands (yes, millions) of laborers directly depending thereupon for their livelihood, prove that timber is an article required by every individual of the whole community, and it must be conceded that every means should be adopted for its preservation and protection.

"While England, which has cheap coal, cheap iron, and cheap labor, and which can get her supplies at the cheapest rates from the north of Europe annually expends nearly \$100,000,000 for timber, one can readily recognize how much it would cost the United States (a country that has yet to build up; and which annually consumes in sawn lumber alone more than ten times as much, and in other products fully fifty times as much as Great Britain) to import its lumber from any foreign source. It has been estimated that it would take the entire sailing tonnage of the world to convey the amount of timber annually consumed in America from any foreign lumber port. But where to get it at any reasonable price in the enormous quantities used in that country is a question that would puzzle those best informed on the subject to determine.

"The word 'destruction' has in the preceding remarks been used advisedly. American forests are not exploited as in Europe. To remove a large trunk, sometimes fifty smaller trees are cut down, and this ruthless denudation is resorted to simply to save a small amount of extra labor; whereas the trees needlessly felled, and the tops and branches of the one actually required, are left to rot in the woods, or, what is worse, to lie as fuel for the flames, and aid in burning up the remaining timber.

"And respecting forest fires, which the lumberman is constantly prating as an excuse for his reckless cutting of timber, it may be said that, from the condition in which the woods are left during and after his operations, it would appear to require almost the interposition of Providence to prevent their burning, as they often do, in case of an accidental spark, and, of course, when they get control, carrying devastation around them; but with proper legislation, and an enlightened public opinion to lead Americans to look upon the tree as one of his best friends, there should be but little danger from fire.

"Moreover, if the timber-land owner would annually expend the same percentage he is willing to spend to insure other property of like value towards putting his timber property in a safe condition, he could so place it that it would be difficult to set it on fire so as to do any serious injury."

(No better evidence of this fact, if such were requisite, can be found than that in the past ten years the Michigan lumbermen have already harvested nearly the whole amount of pine estimated by the census, and have yet some more remaining.

I will now say what I know will be considered rank heresy by many otherwise well-informed persons—that in many parts, I can safely say the most of the Northern States and Canada, outside of mountainous slopes and peaty soil—fire [which is by all odds, after the axe, the greatest destroying agency] is, when we take into consideration the vast area of the forests, by no means so alarmingly prevalent or general that timber should be considered even a hazardous risk. Talking from personal experience, for over half a century,—first, my father, and, later on, myself, continuously owned timber property, often amounting to tens of thousands of acres of freehold land, for many years at a time, and hundreds of thousands of acres in timber limits. I am safe in saying an annual premium of insurance of one-twentieth of one per cent. would have fully compensated any loss by fire in valuable timber during that period. In France, a much dryer country than that bordering the Lakes, or Eastern Canada and the United States, fully grown forests are insured at one-tenth of one per cent.—a rate which I have no doubt would be profitable to insurance companies in this country, provided, of course, people would look upon such property as worthy of protection. And this bugbear, so frequently alluded to, I had occasion to treat, when discussing the subject of forest land investments, in another letter to the *London Times*, August, 1883, to counteract the erroneous idea which prevails of the great risk of such property from fire.) (*For this letter see Appendix.*)

"I shall not refer to the climatic or other effects claimed to be of a serious character which denudation of the forests is said to bring upon a country. These matters I leave to the elucidation of scientific minds, that better understand the subject and can properly treat it. The commercial aspect of the question is all I claim to possess any knowledge of, and this I believe is of such paramount importance that it should arrest the attention of all thinking people.

"It may be said that the active American mind, always ready with expedients, would be alive to its importance; but the truth is that the American mind has, up to the present time, been devoted towards getting rid of the timber, and in this, as in most other efforts, it has been eminently successful; so the question is now, how to change the current of public opinion in America from that of antagonism against trees to that of appreciation of them, and in my opinion this can soonest be brought about by constant agitation and reiteration of the true state of the facts. The formation of Forestry Associations and the institution of 'Arbor Days' are having excellent effects, and will no doubt be productive of a great amount of good in this direction."

The foregoing, written nearly seven years ago, and the little interest yet taken in the subject, shows how futile is any attempt at reformation, unless the press of the country takes an active and intelligent interest therein; and how can we expect other journals to look on this matter except with incredulity when those that are expected to know utter no sound? With the lumber duties removed, the great lumber trade journals, which are no doubt now chafing under the restraints imposed upon them, will speak out in terms so pronounced as to call universal attention to this momentous question. Otherwise, in my opinion, the case of the forests of the Northern States is entirely hopeless.

As regards the timber of the South, I can only speak of that part of the country which I visited; but from several months' travel in the South Atlantic and Gulf sections, for the purpose of gaining information, I am led to believe there is not in that part of the country the superabundance of timber supposed by many to exist. The impression I formed was, that there was no more there than prudence would indicate should be required for home use, so soon as any material local development took place.

In the cypress swamps and river bottoms and on some of the rich humuck lands I found considerable bodies of fine timber, equal to some of our best Northern tracts—consisting in the swamps of the valuable cypress, and elsewhere varieties of oak, bay, magnolia and other hard woods, and sometimes a few scattering good-sized short-leaved pine; I have also seen many small groves of fine long-leaved pine (the yellow or pitch pine of the United States timber trade); but in the vast flat woods and rolling pine land districts, I have travelled, for weeks at a time, through country, the general aspect of which resembled more that of an open park, from which all the large timber had been removed, than a well timbered country, so few trees of a size recognized as valuable a few years ago in the North were to be seen; and I think the amount given in the census returns of 1880, which were made by Dr. Charles Mohr of Mobile, a gentleman fully competent for the work, will prove to be fairly accurate. I found also, what I was grieved to see, several very destructive agencies at work—one was the destructive turpentine farming, which had already and was still ruining vast bodies of this timber; and even a still more objectionable process called "deadening," which was carried on after this manner. The whole country being at that time (1880) "no man's land," a settler would look around for a place to locate, and, as is usually the case, the richer the soil the larger the growth of timber—this would indicate the spot to be settled on. The first thing then to be done was to kill the trees by girdling them, so that there would be no foliage to obstruct the sun's action on the soil. The soil itself being principally sea-sand, the chief nourishment comes from the slight covering of vegetable leaf mould, which, after a few years' cultivation, loses its fertilizing properties, and the settler would then have to look up a new location to repeat this process of destruction to the timber—one man thereby destroying far more timber than by clearing the land, which would require more

time and be a more expensive process. I also found even then (ten years ago) parties going back as far as ten miles from the streams to pick up a single large tree, for which an extra price would be paid—it being a matter of great importance to the shipper to have a fair average size in the rafts to be sent to market—a process that I was informed had been general throughout the South for a number of years; and since these large trees appeared to me to be about one out of a thousand, this process, if kept up for any length of time, would soon leave the country without any considerable amount of good-sized timber remaining.

The timber itself, whether large or small, is a very valuable wood, strong and durable, but heavy and resinous, being nearly the same weight as white oak. One would be disappointed, however, if he expected the same sized tree of this timber to have the same amount of heart-wood as in the white pine, for in most sections, especially among the thrifty growing trees, the sapwood is sometimes very thick. I measured on an 18 inch log 5 inches of sapwood—there are some sections of thin sap timber, but this timber is usually not large. I believe that the pine timber further south and west was larger and more plentiful, but my experience was there the same as elsewhere, that the really good timber was "somewhere else"; and whatever there may be will be fully required at home.

On the Pacific, however, one meets with a growth of timber marvellous in its size and height; and after seeing a really good tract of Douglas fir or Redwood, one is prepared to believe any report, however apparently incredible it may appear. I have myself, in British Columbia, seen from 50 to 80 trees—many in height from 100 to 150 feet to the limbs, 5 to 15 ft. in diameter at the butt—to average probably 7000 feet to the tree, or say from 300,000 to 500,000 feet per acre.

This timber is almost exclusively Douglas fir, with usually some very large cedars, larger butted but shorter than the fir—the cedars, however, when over 8 ft. in diameter, are usually hollow at the butt; still a trunk, 15 ft. in diameter, will often give a dozen or more logs out of a cut larger than our present eastern averages.

There are also scattering white pine trees very tall, round and sound, many up to seven feet, and even over this on the stump; but the number of such trees is not great. But, if any one were to fancy from this that there was an inexhaustible supply of this kind of timber, he would be greatly mistaken. These really fine tracts of timber were not to be found of as great extent as I had imagined. They are confined to special spots, usually at the foot-hills of the mountains and along ravines bordering on rivers, creeks and around the lake, but not on the river bottom lands, which are usually cotton-wood, alder and other varieties of hard-wood. This Pacific Coast timber will, however, all be required for Lower California, South America, Australia and other foreign markets, but which, if called on for supplies for the East, would not only require the five existing railways, but give twenty-five lines more each ten million dollars annual freight to transport it across the continent.

Knowing as I did at that time how little value was placed on such property in America, and how little value the public placed on the "free gifts of Providence," when they saw no immediate money in them, and that in all civilized foreign countries, many of them far better supplied with timber for their immediate necessities than either the United States or Canada, the smallest twig or fagot was looked upon as property of some value, I addressed a letter to the London *Times* in August, 1883, with the hope that if Americans would not look upon such property as of value, foreigners might do so, reference having been made by Mr. Plimsol to the difficulty of finding proper investment for British capital. From this letter I extract the following: "When speaking of the subject of investments, I crave the favor of drawing your attention to a source of investment, which I believe to be not only one of the best and safest possible, but one which would be productive of incalculable good to the countries in which the investment is made, as well as of benefit to the people of this country (Great Britain). I allude to the investment of capital in the timber lands of America, for, owing to conditions which it might take up too much of your valuable space to explain, this description of property has hardly yet begun to assume the status of capital at all, it having been considered almost up to the present moment generally, and is now to a large extent considered simply, as something on which to employ capital rather than as capital itself. This fact has been productive not only of losses to the manufacturers of timber, but is the cause of a great deal of dissatisfaction among those who have its disposal, as it has continually led, when any encouragement has been given by slightly advanced prices, to over-production and consequent loss.

"In confirmation of the above fact, it is pertinent to state that it is only within the last eighteen months that any concerted effort has been made in America to draw attention to the importance of this subject. Two meetings were held last year,—one in Cincinnati and the other in Montreal—of an association called the American Forestry Congress, which were attended by prominent men both from the United States and Canada; and what little interest there may now be taken in the subject may be justly attributed to the discussions and information furnished at these meetings, so that as yet it may be said that there is hardly a public opinion formed on the subject, notwithstanding it is the most momentous question for the future welfare of the United States and Canada, it being not only the largest manufacturing interest of Canada, but also of the United States, whether regarded in the value of products or number of operatives employed, and yet we are informed by those specially engaged by the United States Government to investigate the subject, that the supplies of those descriptions of timber—the white pine (*pinus-strobus*—the yellow pine of the British market) and spruce which have furnished in the past nearly the whole of the commercial timber of the Northern States and Canada, and now supply fully three-fifths of the whole stock of this indispensable material—will have entirely disappeared from the

forests of the United States within the short space of seven years, at the present reckless rate of cutting.

"My object in drawing attention to this matter is to show the increasing value of this property, arising from the destruction going on in the existing supply of timber, and that while the consumption of this material keeps pace with the increasing wealth and population of the country, the supply is not only of a limited amount, but is rapidly diminishing.

"Moreover, it may be said that whatever sentiment has existed in America has been, and is still largely so, rather towards getting rid of the forests as rapidly as possible than preserving them; so that while millions of money are employed, and ready to be furnished to any amount by bankers and others for the conversion of timber, there is none whatever employed in its preservation or protection."

And this is so, simply because Americans have not yet become educated to the knowledge of considering timber as property capable of being converted into money at any time when required, as is the case in all other civilized countries, but rather as something on which to employ capital in its conversion for market; so that while millions upon millions are ready to be used or loaned for its conversion—yes, *even for its destruction*—there is none whatever forthcoming for its preservation, not to mention such a remote idea as its production.

And I might here say that every year since then pine stumpage in Canada and the United States has been rising in value, and what could then be bought at \$4 per thousand on the stump in Michigan cannot to-day be had for less than \$10 per M, though the product in lumber has but slightly increased in price, while the relative increase in value of standing pine timber in Wisconsin and Minnesota has been still greater, though it has not yet reached one-quarter its actual value for home requirements.

We will no doubt be told that nothing could have been done; but this is not so, as a great deal might have been done if the lumbermen had conducted their operations properly, when not only would the country be much better off but the lumbermen as well. In March, 1881, about the time when the actual condition of the pine forests (which condition was previously known by all well-informed lumbermen), as ascertained by the gentlemen connected with the census, was announced to the public, I published a letter in the *New York Times*, from which I transcribe the following closing paragraph:—

"It is to be hoped, now that the Government has come into possession of the facts, it will take means to enlighten the public on this most important subject. An enlightened public opinion can do much to aid in stemming the tide of destruction which is now going on with reckless precipitancy. A knowledge of the value of their property will cause owners to be more careful of it, and not be disposed to part with it to go abroad at one-tenth the value it will have in a few years standing in their forests for their own wants. The substitution of spruce, hemlock and other woods for such purposes as they

are suitable; by stopping the frightful butchery of this timber, which is now going on by the use of circular saws, that turn one-quarter of the log into sawdust; by allowing the younger trees to grow; by the Government withholding its timber lands from sale; by preventing, if possible, the making of square timber in the woods, by which one-third of the tree is cut into score blocks and shavings, furnishing the most fruitful sources of fire; and by throwing open the ports to the free entry of timber to any country that may be willing to spare it; and now that this timber is about gone, if the lumber papers will give their patrons correct information on this important subject, some little may yet be done to extend the supply of this indispensable timber."

I think if the suggestions above thrown out had been acted on at the time, that matters would not now be in quite as bad a shape as they actually are, and though I know, as I have said above, the Governments are not wholly to blame, yet in this respect they are specially to blame, in so legislating as to cause the public to believe it is a good thing "to get rid of the timber"—the Government of the United States by imposing duties on timber products, and that of Canada by aiding in any manner in getting rid of the timber.

Though we in Canada may not be in as bad condition as our neighbors, yet it is rather owing to having a more difficult country to work in than from any care on the part of the Government or even the lumbermen, that we have still a moderate amount of good pine and spruce timber remaining; and lest it might be thought that my own representations might be warped in any way by the imminently serious manner in which I view this question, one about which I do not hesitate to say I am thoroughly in earnest, I will quote a few paragraphs from the admirable report on the Canadian Forests, submitted to the Government about twelve years ago by the Hon. H. G. Joly de Lotbinière (Seigneur, late Premier of the Province of Quebec), and which I may here say is the first really valuable report we ever had on this subject; and since the forests have not improved in any respect since then, I trust it may tend to allay the very uneasy feeling of the American lumbermen lest we should swamp the United States with pine and spruce lumber, were the pernicious duties, so frequently referred to, removed.

And after referring to the older settlements of the Province of Quebec being painfully bare of trees, Mr. Joly sums up his Report on "the Present State of our Forests" by saying, "that it is very far from satisfactory and leaves much room for improvement." But in his very able Report he does not stop short at "the state of the forests," but shows his clear insight into everything appertaining to the subject, by accounting for the facts of a continued over-production of wood side by side with rapidly receding and diminishing supplies. In alluding to the over-production he says:—

"There cannot be a greater waste of any marketable commodity than by over-production. It is unavoidable, as the extraordinary success of any given branch of industry is certain to produce it; but generally it does not take long after its fatal effects are felt before the evil cures itself. Unfortunately our timber trade is an exception to that rule. In the face of a glutted market we persist in our over-production, as if we expect to relieve the

market by glutting it still more." And elsewhere he says:—"We are not spending the income or annual profits of our forests, but the forests themselves; not the interest, but the capital." (*For further extracts from Mr. Joly's report see Appendix.*)

The foregoing is a picture made some twelve years ago of the condition of the Canadian forests by a gentleman thoroughly conversant with the timber trade—an enthusiast on the subject of forestry, and having recourse to every available source of information on the subject. What can we gather from his statements, but that Canada is almost in the same deplorable condition as the United States as regards its stock of merchantable Pine timber. And that he has not since discovered any more favorable aspect in this matter, we can gather from his remarks in an address delivered by him recently before the Natural History Society of Montreal, in which, while paying a graceful tribute to the memory of my father, he indicates to a certain extent his present opinion regarding the forests. In this connection he said:—

"The late James Little of Montreal, who was the first to sound the alarm, deserves to be gratefully remembered by Canada. When every one treated our pine as if the supply were inexhaustible, he was the first to call attention to its rapid disappearance. His warnings were met not only with indifference, but with ridicule. Now, the eyes of the most sceptical are opened, and they must admit that he was right; but it is sad to see them turn around now, and affirm that it is no use devising means for the protection of our forests, because there is nothing left in them worth protecting. There is still a good deal left worth caring for and improving. It is late, but not too late."

Such language from such a source should at least cause our Government to give some little thought to the imminence of the situation.

There is a "good deal worth caring for and improving" hardly warrants the idea that we have any such superabundance as to offer a bounty "to get rid of the timber." There is no doubt we have still some good Pine and considerable good Spruce timber remaining, that with careful and prudent management would supply the home and the export trade to Europe and South America for a good many years, yet it would supply for but a limited period the thousands of millions of feet that will be required by the United States, when it has parted with its White Pine and Spruce timber, and when it has no other source of supply for this description of wood than Canada—and from no other source can it be obtained so cheaply as it can from Canada; so that if we act with prudence, and husband our wealth of timber, there is yet a great future in store for our country. But it is not by using our efforts to get rid of our timber resources in the reckless manner we have been doing in the past, but rather by restricting the cutting, by more careful manufacture, and by considering every growing tree as so much capital not to be parted with without valuable consideration, that we shall accomplish this object. For this result we shall not have long to wait, for though it may take a few more years to entirely exhaust the White Pine timber of the United States, by far the largest portion of it lies within the extreme

Northwest, contiguous to that great prairie world which is now being so rapidly developed, and which will require all the timber that grows there. In fact, the population of the prairie districts are even now planting trees to provide for their future wants. Moreover, a knowledge of the true conditions has so advanced the price of standing Pine in the West, that the price of the manufactured article must continue to advance very rapidly for the future, as there is no other wood in America or elsewhere that is applicable for so many purposes and of such general use.

It has often been said that there would soon be found a substitute for wood; if so, it is quite time the discoverer brought it forward, for up to the present the ingenuity of the "everlasting Yankee" has not even touched the matter. Notwithstanding the fences of wire, the use of iron in building, the terra cotta and straw lumber, the consumption of our old friend wooden lumber increased nearly 50 per cent. in the United States in the ten years from 1870 to 1880, the former being 12,755,543,000, and the latter 18,091,356,000 feet, while a still greater increase has taken place in the last ten years, so that it is anticipated the present census for 1890 will show, as has been said above, the enormous total of 30,000,000,000 feet of sawn lumber manufactured annually in the United States, an amount that can hardly be comprehended by the mind, but sufficient to load a train of cars 25,000 miles long, or enough to encircle the earth at the equator!

I have no doubt that many gentlemen will think that I have been a little carried away by my own enthusiasm on the subject of forestry, but I will here give the views held on this question by a couple of intelligent foreigners.

Dr. Felix L. Oswald, in a paper on "The Climatic Influences of Vegetation," written for the *Popular Science Monthly*, says:—

"All over Spain and Portugal, Southern Italy, Greece, Turkey, Asia Minor, Persia, in Western Afghanistan and through Western Africa, from Morocco to the valley of the Nile, the aridity of the soil makes the struggle for existence so hard that, to a vast majority of the inhabitants, life, from being a blessing, has been converted into a curse.

"Southern Spain, from Gibraltar to the head waters of the Tagus, maintains now only about one-tenth its former population, and Greece about one-twentieth. As late as A.D. 670, a good while after the rise of the Mohammedan power, the country now known as Tripoli, and distinct from Sahara only through the elevations of the mountains, was the seat of eighty-five Christian bishops, and had a population of 6,000,000, of which number three-fourths of one per cent. are now left.

"The rivers of some of these countries have shrunk to the size of their former tributaries, and from Gibraltar to Samarcand the annual rain-fall has decreased till failure of crops has become a chronic complaint. And all this change is due to the insane destruction of forests. The great Caucasian Sylvian, that once adorned the birth-land of the white race from the Western Pyrenees to the front hills of the Himalayas, has disappeared. Of the forest area of Italy and Spain of the elder Pliny about two acres in a hundred are left; in Greece hardly one."

And returning to a consideration of some portion of this country he says:—

"The States of Ohio and Indiana and the southern portion of Kentucky and Michigan,

so recently a part of the great Eastern-American forest, have even now a greater percentage of treeless area than Austria and the Northern German Empire, that have been settled and cultivated for upwards of a thousand years.

"The true basis of national wealth is not gold, but wood. Forest destruction is the sin that has cost us our earthly paradise. War, pestilence, storms, fanaticism and intemperance, together with all other mistakes and misfortunes, have not caused half as much permanent damage as that fatal crime against the fertility of our Mother Earth."

And the Hon. Carl Schurz, late Secretary of the Interior, U.S., in an address delivered before the American Forestry Association at Philadelphia, Oct., 1889, from which I extract a few remarks, says:—

"I know the advocates of the cause to which you are devoted are looked upon by many as a set of amiable sentimentalists, who have fallen in love with the greenness of the woods, and break down in hysteric wails when a tree is cut down. I assure you I have been led to take an earnest interest in this subject by considerations of an entirely unsentimental, practical nature, and this no doubt is the case with most of you. The more study and thought I have given the matter, the firmer has become my conviction that *the destruction of the forests of this country will be the murder of its future prosperity and progress*. This is no mere figure of speech, no rhetorical exaggeration. It is simply the teaching of the world's history, which no fair-minded man can study without reaching the same conclusion.

"No country ever so great and rich, no nation ever so powerful, inventive, and enterprising, can violate the laws of nature with impunity. We most grievously delude ourselves if we think that we can form an exception to the rule. And we have made already a most dangerous beginning, and more than a beginning, in the work of desolation. The destruction of our forests is so fearfully rapid that, if we go on at the same rate, men whose hair is already grey will see the day when in the United States, from Maine to California, and from the Mexican Gulf to Puget Sound, there will be no forest left worthy of the name.

"Who is guilty of this destruction? It is not merely the lumberman cutting timber on his own land for legitimate use in the pursuit of business gain; it is the lumberman who, in doing so, destroys and wastes as much more without benefit to anybody.

"It is not merely the settler or the miner taking logs for his cabin, and fence rails and firewood, or timber for building a shaft, but it is the settler and the miner laying waste acres or stripping a mountain slope to get a few sticks. It is all these, serving indeed legitimate wants, but doing it with a wastefulness criminally reckless.

"It is the timber thief, the tourist, the hunter, the mining prospector who, lighting his camp fire in the woods to boil water for his coffee or to fry his bacon, and leaving that fire unextinguished when he proceeds, sets the woods in flames and delivers countless square miles of forest to destruction."

"It is all these, but it is something more, and, let us confess it, something worse. It is a public opinion looking with indifference on this wanton, barbarous, disgraceful vandalism. It is a spendthrift people recklessly wasting its heritage. It is a Government careless of the future and unmindful of a pressing duty."

These are words, not of silly sentimentalists, but of thoughtful, intelligent men, that know whereof they speak, born and educated in a country where improvidence is almost considered a crime—and uttered with the serious earnestness of positive conviction. Yes, let us go on in our reckless extravagance, and we will soon be brought to a realization of what it means "to get rid of the timber."

It must not be inferred, from anything I have said, that I am in favor of

export duties, or of restrictive duties of any nature in our trade relation with our cousins across the line, for I have always advocated the freest trade relations between the two countries, believing, as I do, that where the conditions are so nearly alike, any advantages possessed by one would be fully counterbalanced by other advantages gained by the other, and the general result would be beneficial to both. But, while the U. S. Government imposes a duty on sawn lumber, we should retain at least such duty on saw logs as not to place our own people at a disadvantage, and give the Americans the whole benefit to be derived from our own timber; and I feel that, considering the rapidity with which the white pine and spruce timber of the United States and Canada is being exhausted, any fiscal policy tending to the loss of this timber without some special advantage to be gained therefrom would be disastrous to Canada, so that I do not view with satisfaction the consent, said to have been given, of removing the whole export duty from saw logs, in case the United States Government reduces the import duty on lumber to \$1 per thousand feet. The furthest concessions I would think of making would be "free logs for free lumber."

It would be in my opinion to the advantage of the people of Canada for the Government to pay the manufacturers such profits, for the next five years, as they can show they made during the past five years, over the value of the standing timber, on U. S. shipments, rather than enter into any arrangement tending "to get rid of the timber." And I also say that it would be better for the Province of Quebec to take the settlers, whom they are even now inducing to locate on land valuable only for the timber—far better, as I have so often said, for the good of the country, even to board them at the public expense at our most costly hotels than to permit these misguided people to wear out their lives in a struggle for a miserable existence from the Laurentian rocks, which are at once exposed when they attempt to clear the land of timber—the only valuable crop it is capable of producing. But, better still, to pay these people to plant in timber tens of thousands of the acres that have already been rendered worthless, by clearing off the timber, and from which to attempt to make a living is simply a strife against nature.

Least it might be thought I am pressing the matter of planting trees as a means of providing for future use (a measure by no means so absurd as many will, no doubt, consider it), I may here remark, the whole immediate object I have in view is to protect from spoliation and waste the supplies that a beneficent Providence has already planted for our use, and which we are destroying with a prodigality so appalling as to fully justify its being characterized by my father and Mr. Schurz, in almost identical terms, as "wanton, barbarous, disgraceful vandalism."

Less than twenty years ago, I visited nearly all the saw mills between here to and including Quebec, and nearly all the mills along and on the tributaries of the St. Lawrence were sawing almost exclusively white pine

saw logs—while at present the few which still remain are confined almost entirely to cutting spruce and hemlock, much of this even of an inferior grade. And the logs now sawn at the Ottawa mills will not turn out over sixty per cent. of their stock into grades better than culls. And the rafts of superior pine that ran from 80 to 100 feet average (about twenty-five years ago I myself sold a raft in Quebec of 148 feet average) now run from 50 to 80 cubic feet average.

I have already said that the present annual production of sawn lumber in the United States would load a train of cars 25,000 miles long, or long enough to encircle the earth, and I fancy some will be surprised at such figures; but it is figures like these that force all who will reflect on the matter, to use expressive adjectives whenever treating of its importance; but this sawn lumber is only a small part of the forest freight, there are still all other forest products; and when we add timber for railway and fencing, mining and export, round and hewn timber, we have our train loaded 72,000 miles; and if to this we then add the firewood, etc., amounting alone to 216,000 miles, we have a total train of 288,000 miles in length, or more than enough to reach from the earth to the moon, still leaving our lumber train encircling the earth with 23,000 miles of a train to spare!—*its weight alone, if green, over five hundred million tons, or enough to load five hundred thousand (500,000) ships of one thousand (1000) tons each!*

The whole of these timber products handled annually by the American workman not only shows what a mighty weapon is the axe in the hands of the skillful chopper, but leaves all other agencies—whether of fire, flood, or tempest—so completely in the rear, that in the race of destruction they may be said to be practically "no where."

I have shown above that two-thirds of this enormous amount of timber is annually consumed by our immediate neighbors, separated from us only by an imaginary line or by short stretches of water.

I have also shown that the forests of this vast territory, extending from the confines of New Brunswick to the head waters of the Mississippi, are almost on the verge of immediate exhaustion; and yet so ignorant or indifferent are the people of the United States to the seriousness of the situation, that they are even now higgling about what special restrictions they can impose upon Canadian lumber. Let them increase the duty by all means. "Olympus high" if they like—the higher the better in my opinion—for they will then the sooner know how grievously they have erred, and how imprudent they have been, when they are compelled to pay these duties themselves, and Canadians are able to get what prices they want for their lumber.

But, if we continue stocking American saw mills with logs, taken from our already too scanty supply, to forestall the markets in advance of our own manufacture, and keep slashing away at our timber as we have always been doing, overstocking the markets as if it were something to be exterminated at any cost, and, with the Government, the capital, and, I may say,

the public of the country, when not indifferent, all arrayed against the forests, and animated with the same destructive impulse, we will no doubt soon be able "to get rid of the timber," and get rid at the same time of the most valuable property we ever had, or may ever expect to have in our country.

Even the poet cannot remain silent (as appears, from the following lines taken from the *New York Sun*) when contemplating the condition of

"A TREELESS COUNTRY."

"I had a dream which was not all a dream."

"A great State was a desert, and the land
Lay bare and lifeless under sun and storm,
Treeless and shelterless. Spring came and went,
And came, but brought no joy; but, in its stead,
The desolation of the ravining floods,
That leaped like wolves or wild cats from the hills,
And spread destruction over fruitful farms.
Devouring, as they went, the works of man,
And sweeping seaward Nature's kindly soils,
To choke the water-courses worse than waste.

"The forest trees, that in the elden time—
The people's glory and the poet's pride—
Tempered the air and guarded well the earth,
And, under spreading boughs, for ages kept
Great reservoirs to hold the snow and rain,
From which the moisture thro' the teeming year
Flowed equably but freely—all were gone.
Their priceless boles exchanged for petty cash,
The cash that melted and had left no sign;
The logger and the lumberman were dead;
The axe had rusted out for lack of use;
But all the endless evil they had done
Was manifested on the desert waste.

"Dead springs no longer sparkled in the sun;
Lost and forgotten brooks no longer laughed;
Deserted mills mourned all their moveless wheels;
The snow no longer covered, as with wool,
Mountain and plain, but buried starving flocks
In Arctic drifts; in rivers and canals
The vessels rotted idly in the mud,
Until the spring flood buried all their bones;
Great cities that had thriven marv'ulously,
Before their source of thrift was swept away,
Faded and perished, as a plant will die
With water banished from its roots and leaves;
And men sat starving in their treeless waste,
Beside their treeless farms and empty marts,
And wondered at the ways of Providence!"

WILLIAM LITTLE.

MONTREAL, June 10, 1890.

APPENDIX.

In 1883, having occasion to discuss the matter of the importance of the lumber trade to the city of Chicago, I obtained a copy of one of the daily journals containing the Port List, which I tabulated as below, to show how greatly it preponderated over all other business of that port for one day.

CHICAGO PORT LIST. *Arrivals Sept. 17th, 1883.*

Sundries—South Haven, smr. Grammond, props. Huntress and Mary Groh ; Muskegon, prop. Menominee ; Benton Harbor, prop. Lora ; Saugatuck, prop. Seaverns ; Sheboygan, smr. Manitowack ; Garden Bay, Merchant.

Excluding the above mentioned, passenger or market boats, there were:—

Sundries—Buffalo, props. Avon, Arabia, Russia, Jay Gould.....	4
Erie, prop. Lehigh ; Duluth, prop. Peerless.....	2
	— 6
Coal—Buffalo, schrs. Danforth, Homer, Sage, Hayes, Hazard.....	5
Charlotte, schrs. Conanche, Jamaica, West Side ; Oswego, Mystic Star.....	4— 9
Pig Iron—Escanaba, schrs. Geo. C. Finney, Lem Ellsworth.....	2
Iron Ore—St. Ignace, schr. Stampede.....	1
Salt—Buffalo, schr. Lady Dufferin.....	1
Fish—Beaver Isle, schr. Hattie Fisher.....	1
Gravel—Waukegan, schrs. Laura Johnson, J. C. King.....	2
Paving Stone—Grindstone Isle, schr. Mary Lyon.....	1

Total, excluding forest products..... 23

FOREST PRODUCTS.

Lumber—Muskegon, schrs. Hawkins, Morse, Rockaway, Ramedary, Laura Johnson, Mount Desert, Candor, Holt, Conway, Advance, Topsy.....	11
Menominee, schrs. Imperial, Mary E. Perew, Fred. Carney, Minekaunee, Anna Maria, J. L. McLarren, Evra Fuller, A. Mosher, Herschel.....	9
Manistee, prop. Hilton, schrs. Emeline, C. Michaelson, C. H. Hockery, Helen Pratt, A. O. Hanson, Ida, J. B. Prime.....	8
Marinette, schrs. Stephenson, Mike Corry, Goodman, DeWolf, Adirondac.....	5
Ludington, schrs. Mystic, Nancy Dall, Conneant, Mars.....	4
Minekaunee, schrs. Alice, Phoenix, Olga, Clara.....	4
Cedar River, schrs. William Jones, A. Bradley, Fleetwing, J. B. Wilbur... ..	4
Ford River, schrs. G. D. Donsnan, Ford River, Resumption, Onward....	4
Grand Haven, schrs. Knights Templar, Waneetee, Leo.....	3
Manistique, schrs. C. Nilsson, G. L. Greve.....	2
Bay de Noque, schrs. Orkney Lass, Belle Brown.....	2
Alpena, schrs. Flying Mist, Eugene Kes'a.....	2
Sturgeon River, schr. Jones ; Cheboygan, Steele ; Charlevoix, Kanters ; St. Ignace, Orphan Boy ; Pine Lake, Z. G. Simmons ; Tawas, Case ; Cecil Bay, R. J. Gibbs ; Elk Rapids, Ruby ; Grand Traverse, Bates ; Horn's Pier, Johnson ; Pensaukee, Myrtle ; Onekama, Hayes ; Bay City, Granger ; Suanico, Ostrich ; Jacksonport, Glad Tidings ; Escanaba, Moselle ; Duncan City, Bay State.....	17

Total lumber..... 75

Railway Ties—Various Ports, Mary Collins, Metropolis, Cuyahoga, Mixer, Forest, Davis, Success, A.B.C.F.M., Westchester.....	9
Bark “ “ Four Brothers, Lewis, Forest, Holmes, Rice.....	5
Posts “ “ Libbie Nan, Ralph Campbell, Peoria, B. F. Wade..	4
Telegraph Poles “ “ Oak Leaf.....	1
Wood “ “ Prop. H. B. Perine.....	1

Total forest products..... 93

From this it would appear that the marine business of the port of Chicago almost depended on the timber trade, so great was the comparative difference,—on the one side, 6 loads of sundries, 9 coal, 2 pig iron, 1 iron ore, 1 salt, 1 fish, 2 gravel, and 1 paving stone=23; on the other, 75 loads of lumber, 9 railway ties, 5 bark, 4 posts, 1 telegraph poles, 1 wood=95. Or deducting the coal, salt, fish, gravel and paving stone, but 9 cargoes of other valuable business as compared with 95 cargoes of forest products.

The departures for the same day, 92 in all, were 72 light to lumber ports for more lumber, etc., as compared with 20 to all other ports, including the market boats above mentioned. This was an object lesson which even surprised myself.

The difference may not now be so great, as the trade of the port has no doubt increased with its enormous expansion, but there is sufficient in these figures to cause one to consider it might not be a good thing for Chicago "to get rid of the timber."

Table of annual receipts at Chicago of lumber and shingles for the past ten years, as furnished by *Northwestern Lumberman* :—

	Lumber ft.	Shingles pcs.
1880	1,565,537,118	650,922,500
1881	1,929,033,000	801,795,000
1882	2,123,630,150	954,548,750
1883	1,840,022,000	1,139,137,000
1884	1,802,727,000	895,528,000
1885	1,744,009,000	765,427,000
1886	1,659,563,000	775,041,000
1887	1,846,187,000	612,990,000
1888	2,012,009,000	629,685,000
1889	1,921,816,000	627,252,000
	<hr/> 18,445,283,268	<hr/> 7,852,926,250

FOREST FIRES.

TO THE EDITOR OF "THE TIMES."

Sir,—I observe in *The Times* of the 13th inst. a letter from a gentleman, alluding to my letter to *The Times* of the 8th inst., on the subject of "American Forests," and regret to find so great ignorance on the subject of forest fires that any one should make the outrageously misleading statement, that "fire has to the present time destroyed a hundred times larger quantities (of wood) than has ever been levelled by the woodman's axe." To this statement I take most positive exception. It has been my duty, as a member of a committee appointed to investigate the subject of forest fires, to examine carefully into the facts; and though I have had myself a large experience in investigating the forests of America, I had thoughtlessly assumed that the injury to forests from fire was much greater than the facts warranted. And instead of the destruction from fire being a hundred times so great, as stated by your correspondent, or being even as great as is stated at random by many who have not investigated the subject, I am confident that more valuable timber has been cut in the past twelve months than has been destroyed by fire in a quarter of a century, notwithstanding that no efforts have hitherto been made to preserve this property from fire. In this matter I am taking into account every large fire in Michigan, Wisconsin, Ontario, Quebec, New Brunswick, Maine, New York and Pennsylvania. And in nearly every instance of a grand conflagration occurring, its serious consequences were owing to the condition in which the woods had been left by the lumberman in his previous operations. It may be remarked, concerning the burning of timber, that it is only in the most exceptional cases that the large green timber is burnt at all. A few instances have occurred where timber, growing on peaty land, in a very dry season, the soil itself taking fire, has been burnt (or in rocky mountainous districts having little soil covering the rocks), but in most other cases it is only the dead or defective trees that burn,—the green timber being scorched, not burnt; but since the scorching, if severe, kills the tree, it becomes necessary to cut the timber within a year or so, or the grubs will injure it, though, if removed within a year, there is little injury done, since the grubs do little more than penetrate the almost worthless sapwood the first season, and the

timber might all be removed before serious loss is suffered, so that, with proper legislation, and an enlightened public opinion to lead the American to look upon the tree as one of his best friends, there should be little danger from fire. In making the above misleading statement the gentleman has no doubt come to a too hasty conclusion, and I am willing to exonerate him from any intent to mislead, for hardly anything can be more terrible, more dreadful in its aspect, than a great forest fire. Still, this only shows the frightful destruction that is taking place by the woodman's axe; and when he says he has travelled through thousands of acres of these forests and hundreds of miles by railroad, he no doubt considers that he has witnessed a frightful destruction of forest property; but nine times out of ten the woods he has seen burning have been intentionally fired, having previously parted with their valuable timber. And an area of country which, to him, has no doubt appeared immense, dwindles into insignificance when compared with the areas cut over annually.

Admitting that a man's vision in the forest would be bounded by a quarter of a mile on each side, he would have to keep travelling for over 30,000 miles (actually over 75,000 miles) to see the area of timber annually cut over in America.

Of course a particular loss by fire to timber belonging to an individual is often serious like any other fire loss, but the burnt over territory in any instance is but trifling as compared with the area unburnt; and whereas in other losses restoration has to be made by the individual himself, in this case nature immediately sets to work to restore the injury done, and notwithstanding the carelessness or wilfulness of man in allowing this property to be destroyed, I am satisfied that the forests are being reproduced more rapidly than the destruction from this cause takes place.

It would, of course, be only prudent in a matter of investment in timber lands, in order to be exceptionally safe, that the area should be of large extent, and the companies to be formed should have sufficient means to remove it from the land that had been burnt over before any serious injury affected the valuable timber. But, as I said above, with proper legislation and an enlightened public opinion, there would be little property less liable to risk from fire than forest lands.

I am, sir, your obedient servant,

WILLIAM LITTLE.

The Royal Hotel, Edinburgh, Aug. 14, 1883.

Professor Charles S. Sargent—under whose supervision the admirable report for the United States Government, of the census of 1880, on the Forest Trees of North America, was prepared—a gentleman of exalted character, and possessing means, opportunity and intelligence for the investigation, and who is, by all odds, best informed about the forests of any man in America, says, when treating on the subject of "Forest Fires:"

"The condition of the forests of Maine is interesting. They show that forest preservation is perfectly practicable in the Atlantic region, at least when the importance of the forest to the community is paramount.

"The very existence of the State depended upon the maintenance of the forest. The great forests of pine could not be restored, but the preservation of the few remnants of these forests was not impossible." I take the liberty of putting the remainder of this paragraph in italics. *"Fires do not consume forests upon which a whole community is dependent for support, and methods for the continuance of such forests are soon found and readily put into execution. The forests of Maine, once considered practically exhausted, still yield largely and continuously, and the public sentiment which has made possible their protection is the one hopeful symptom in the whole country, that a change of feeling in regard to forest property is gradually taking place. The experience of Maine shows that where climatic conditions are favorable to forest growth, the remnants of the original forest can be preserved and new forests created, as soon as the entire community finds forest preservation really essential to its material prosperity."*

The late Dr. F. B. Hough, also in his Report upon Forestry (U.S.), 1882, p. 231, adds his testimony to the reproductiveness of the forests in Maine, by mentioning the following, concerning the great fire which occurred near Moosehead Lake, in 1825:—

"In portions of Maine that were overrun by fire in the same year (1825), and about the same time, pine and spruce timber were succeeded by white pine, with some white birch and

poplar. The pine in the interval of fifty-five years has grown up into a dense forest, now of much greater value than the original forest growth." And in a foot note he says:—"It is the opinion of a correspondent that the birch and poplar will be eventually crowded out by the pine and spruce, leaving the forest with the same kind of timber as before the fire."

Dr. Hough also inserts a letter from a correspondent in Burlington county, New Jersey, who writes:—

"I have had under my care large tracts of growing timber, and have had very little loss from fires. Our plan is to burn over our tracts early in the spring, before the sap starts—burning up all the underbrush leaves, etc. We have found that a fire in February does not hurt the growing timber; and should summer fires come in from adjoining property that has been neglected, they have nothing to feed on but very green leaves, etc., and they are much more easily controlled. Even if they go through the woods they find little to burn; they get up but little heat, and do but little damage. The Pemberton and New Jersey Railroad runs through our tract, and summer fires are common; but they hardly require looking after, so far as our tract is concerned. I think there should be a law, requiring every owner of timber and brush land in our general pineries to burn all the leaves that may fall during the winter, thus leaving no fuel for summer fires."

THE TIMBER TRADE AND RECIPROCITY.

I here insert a few extracts from a letter on "The Timber Trade and Reciprocity," submitted by my father to the National (U.S.) Board of Trade meeting, held at Detroit, Oct. 22, 1873, in which, after pointing out the localities having any considerable amount of valuable timber, and the scarcity of this material as compared with the enormous demands made upon the forests, he stated his views, from the Canadian standpoint, on the subject of reciprocity in lumber with the United States, and though one of the earliest and most ardent advocates of protection to home industry, yet he was also among the first to propose freedom of trade between Canada and the United States—the only stumbling block being the dread lest Canada would thereby lose all her valuable timber without adequate returns. I mention these facts as I observe that the American lumbermen never approach Congress without mentioning his name, as the possessor of extensive Canadian timber limits, in order thereby, I suppose, to lessen the weight of his warnings. The fact is, however, that considering as he did the removal of the duties by the U.S. would be injurious to Canada, he never afterwards favored their removal. In this letter he treats of reciprocity in lumber as follows:

"It is, I am aware, the general opinion of the people of the United States that Canada benefitted largely by the Reciprocity Treaty while in force; but the very reverse is the fact as regards lumber—Canada lost millions by that Treaty. It stimulated production amongst us to such an extent, that the same description of lumber which, the year before it took effect, sold in the Buffalo market at from thirteen to fifteen dollars per thousand feet, paying one dollar duty, could not be disposed of in the same market at over seven dollars per thousand three years after Reciprocity came in force, and it remained at lower prices than it could be produced until the necessities of the war forced them up. The raw material which would now be worth millions of dollars, were it standing in the forests, never returned a farthing to the operators or the country; and not only so, but the cost of a great deal of the labor expended in manufacturing it went also to add wealth to our neighbors across the line, while their own timber was so far preserved for future use. They and they only were the gainers by reciprocity in lumber, while nearly all on this side engaged in supplying their wants were ruined.

"In inexcusable ignorance of the timber question, or an astonishing want of foresight on the part of the lumbermen both in Canada and the United States, they continue to build new and more capacious mills, and increase the manufacturing capacity of the old ones, as if there were a strife among them to rid the country of some noxious thing, which their greatest effort should be made to destroy as rapidly as possible, or as if timber could be grown like a crop of weeds, and the Governments of both countries are doing all in their power to help them on in this destructive policy—that of Canada by forcing its timber territory on the market many years before it is required by the trade, and thus sacrificing it to the injury of the revenues, the country and the lumbermen, by encouraging over-production, and that of the United States by disposing of its timber lands for next to nothing, and

the imposition of duties on the foreign article, instead of forcing them to husband and preserve so valuable and indispensable a product by every means within its power. Giving a bonus for the introduction of Canada lumber, and putting a fence around what timber they have, would be a wiser policy for them to pursue. Let them, however, slaughter away; they will wake up to the folly of such a course when it is too late.

"Being satisfied that Canada would be injured by reciprocity in lumber with the United States, as I am confident it would—as it did during its continuance—have the effect of stimulating our lumbermen, who, as a body, are the reverse of being conservative in their business, to increase the present excess of over-production, and thus again sacrifice in the interest of our neighbors the most valuable product we possess, and which it would take generations to replace were it possible to do so by any efforts we could make. I, for one, therefore, am by no means anxious for a renewal of the Treaty. The time will come when they will be glad to get our lumber on any terms."

JAMES LITTLE.

It is worthy of remark, as showing the altered conditions which have taken place since the time above mentioned—when my father was carrying on extensive lumbering operations in Western Canada—that this was when the American lumbermen were on their raid westward, passing through Canada to Michigan and the West, and before any extraordinary development of the lumber trade had begun west of Canada, that the production of Canada had such an influence on the lumber trade of the United States. If I were to mention the names of Americans then operating on this side, I would include among them most of those lumber kings whose names are now familiar as "household words" in Michigan, Wisconsin and Minnesota; and instead of this section of Canada being at all a factor in the trade, as it was no doubt at that time, were the duties removed, so little pine is now remaining, that Buffalo, N. Y., above mentioned, would be found the cheapest place to purchase lumber should it be required in any quantity by that part of Canada at the present time.

Again in 1876, in a pamphlet to the public, he writes on

"THE TIMBER SUPPLY QUESTION."

"When, a few years ago, it was rumored that the coal fields of Great Britain would not supply the then rate of consumption for more than two or three generations, a general alarm at the prospect of so terrible a calamity, so soon to fall on the nation, immediately manifested itself. It became the question of the day, the Press was full of it, had daily leaders on it, and it was made a subject of Parliamentary inquiry, and until it was satisfactorily ascertained, by scientific investigations and surveys, that there was coal enough in the country for many centuries, the question was the one absorbing topic of conversation and discussion amongst all classes in the British Isles.

"The question of the timber supply here is of as much importance to us and the people of the neighboring States as that of the coal supply, which so powerfully exercised the minds of the people of Britain, could possibly be to them. Yet the most shameful waste of this indispensable material has become the order of the day, while our Boards of Trade, our political economists and statesmen, and the leading journals of the country, totally ignore the subject as not worthy of their slightest notice. THE QUESTION THUS TREATED WITH SO MUCH INDIFFERENCE AND NEGLECT WILL, HOWEVER, IT IS CERTAIN, BEFORE MANY YEARS ROLL ROUND, FORCE ITSELF ON THE ATTENTION OF THE WHOLE COMMUNITY TO SUCH A DEGREE AS TO DWINDLE ALL OTHER QUESTIONS INTO UTTER INSIGNIFICANCE IN COMPARISON.

"And now, what of our neighbors across the line in this respect?

"They are following exactly the same course, but in a yet more wasteful, reckless and unprofitable manner, if we may except our own New Brunswick operators, who appear determined not to be outdone in their efforts at national suicide.

"The Census returns of the United States of 1870 showed a production of sawed lumber alone of 12,755,543,000 feet, and if we add to that enormous amount all the timber made into shingles, all made into hewn, flatted and round timber, used in home consumption and exported, all that is wasted and used for other purposes (not including firewood and

that consumed in clearings), and all the large increase in consumption at the present time, we may estimate the whole amount now at 20,000,000,000 of feet, equal to about 30,000,000 of tons, from which it will be seen that it would require fifty per cent. more than the shipping of the whole world, which has a tonnage of but 18,000,000, to freight that amount from their Pacific States and Territories to the Atlantic sea board" (the foregoing figures are, of course, now nearly doubled), "from whence it must then be carried for distribution, at an enormous additional cost, to the points of consumption, even as far west as the States, which now furnish their thousands of millions of supply,—and when, besides, millions of consumers will be added to the population calling for supplies, to intensify, if possible, the ruin and distress which will be entailed on the inhabitants and every industrial pursuit of their country. It is only within a year or two their political economists and their Press, with the exception of a few lumber papers in the West, have deemed it worth their while to give a thought to the subject, and that more with reference to its influence on the rain fall than to the question of the extent of the supply to satisfy the future wants of their country.

"And here I would remark that, with respect to the Adirondack territory, it would be better for the State of New York to pay many millions of dollars for the preservation of the forests clothing its mountains, than allow them to be stripped of the timber which acts as a reservoir for their great Hudson River. Once this region is denuded of its trees, that river will in each succeeding spring become a torrent, sweeping all before it, while, for the summer seasons, it will show nothing but a comparatively dry bed till it reaches tide water."

And, after describing the condition of the different pine and spruce regions of the United States, taken from the best sources of information then attainable (this pamphlet having been written before authentic figures were ascertained by the U. S. Census of 1880), he treats of the Canadian supply as follows:—

"Turning now to the investigation of the question of our own timber supply and consumption, and commencing on the Pacific side, British Columbia has, it is known, a good supply of a description of pine which differs considerably from our white pine, with other commercial wood; but, whether much or little, it is so far away, as I have already remarked, that it would be much cheaper to freight supplies from the north of Europe than from that Province. It may be utilized to some extent when there is a railway to move it to the Saskatchewan Valley. Northeast of the Rocky Mountains there is some timber on the rivers of the wild north land which discharge into the Arctic Ocean, and some spruce timber is also found on some of the streams, reaching the Northwestern shores of Hudson Bay; but these comparatively insignificant supplies are also too far away to be of any account to us here in the East, and, if facilities are ever made to make them available, they have a territory to furnish, chiefly prairie, large enough it is said to make a dozen of States as large as the State of New York, and what will be the great drawback to the settlement of this great country, as it will also be to the prairie States of the American Union, will be the want of timber.

"Next comes the Province of Manitoba, without any supply of timber except what little may be found on the Canadian portion of the Red River, around the Lake of the Woods, and other patches of but small account in a country almost all prairie."

"Next we come to the rocky, barren district north of Lake Superior, and bounding the Province of Ontario on its northwest extremity. This Province, the Province of Ontario, was not long since a magnificent forest country, probably unsurpassed on the face of the Globe in its wealth of timber, and especially that of the best description of white pine, in which it abounded. That section drained by the streams which empty into Lakes Huron, St. Clair and Erie was exceedingly rich in the commercial woods of pine, oak, walnut, ash, elm, and white wood. They are now all but gone, hardly any can now be seen west of the Northern Railway, which runs from Toronto to Collingwood on Georgian Bay.

"The Muskoka country on Georgian Bay, which was only a few years ago opened up to settlement, is undergoing the same rapid process of denudation incident to all new timber settlements. The hardwood is being burnt up to make way for the plough, and the pine is fast disappearing under the stroke of the axe for the insatiable saw mill. That section, with all the streams emptying in Georgian Bay up to the Sault St. Marie, does not hold as much pine as is got out in a single season in Michigan alone. In fact it would be a wise measure, if it could be enforced, to compel the whole Province west of the watershed of the Ottawa to preserve the little timber now remaining for its own use.

"We now reach the Valley of the Ottawa, which is the only pine timber region we have worth giving a moment's consideration to, in discussing the question of supply; and yet from the information I have obtained on the subject, from those whose lives have been mostly spent in the territory, I have every reason to conclude that, at the rate of consumption going on, a single decade will be sufficient time to totally exhaust its resources. And as we will be called on to supply the deficiency shortly to arise in the States, the time will be correspondingly shortened."

It is only proper to remark that though the Ottawa is still producing largely, yet the mills have been sawing for years a good deal of inferior timber that was not at that time considered worthy of conversion into lumber.

"The valley of the St. Lawrence from Montreal to the gulf never had a great amount of pine timber on it. The St. Maurice held more than the whole territory beside, and that River has been undergoing a course of depletion for many years.

"I would now offer a few remarks regarding our spruce timber supply, a very valuable wood which ranks next to that of pine in the amount of consumption, and enters into competition with the lower grades of that product to a very considerable extent. The supply of this timber this side of British Columbia available to us is confined chiefly to the valley of the St. Lawrence below Montreal, the Eastern Townships, Nova Scotia and New Brunswick. The Eastern Townships have been run over to a large extent for both local consumption and foreign demand. Every stream in it has been ransacked for the saw mills in the interior, on the river, and at Quebec, and there is not much left convenient to the floating streams, and especially in the St. Francis district, outside the lands held in fee by private parties. On the north shore of the St. Lawrence the spruce is exhausted for many miles back, and what remains is all now held under license from the Government of the Province, as is also the whole region below Quebec, hardly a stream of which but has extensive mills on it, and from all appearances this description of timber will be as short lived in this Province as the white pine.

"Nova Scotia is also making rapid progress in ridding her soil of its wood incumbrance; and with regard to New Brunswick, which manufactures more spruce deals than are shipped at Quebec of both pine and spruce, and appears determined to get rid of her timber at any sacrifice, cannot, if the Press of that Province correctly informs us on the subject, have any great supply now left. The St. John *Telegraph*, the leading paper of the Province, gives us an idea of the state of matters there. It says: "That the increasing scarcity of timber adjacent to the sea and the navigable rivers has within a few years become a subject of great moment to the inhabitants of the Province. Until recently some of our people have been accustomed to look upon our pine and spruce trees as an incumbrance to the land and unworthy the cost of protection. The public, however, think differently now, since they find that *one-half of the best timbered lands has been destroyed, while nine-tenths of the remainder have been worked on so much that they have been largely deprived of their most valuable soft woods,*" and yet we find that in the face of this condition of the timber resources of the Province, after having stripped it of its immense amount of most valuable pine timber, they are slaughtering away at what is left of their spruce, much of it not thicker than one's arm, and throwing it on the English markets, at auction, to such an extent as not to realize for it more than it should now be worth standing in the forest. And thus, while utterly ruining the trade in all descriptions of wood which competes with them on both sides of the Atlantic, doing incalculable injury to that Province in entailing on its inhabitants one of the direst calamities that could befall them,—a want of timber.

"An article in a recent issue of the London *Timber Trades Journal* mentions a sale of 300 acres of timber, grown by the Earl of Cawdor on the mountains of Scotland, which brought 16,000 pounds sterling, about 80,000 dollars, and that after it had undergone repeated thinnings which realized large additional sums; and I will venture to say that there are not 300 acres of timber which the lumberman of New Brunswick are now recklessly throwing away but what would be worth as much in a few years time if left untouched.

"The question will no doubt be asked if I have any remedy to suggest for this ruinous state of things? I would reply, our Government, having wastefully sacrificed the timber of the country by throwing it on the market, by auction, and making presents of it to favorites, there is none now left except a few blocks of but little timber value, which this Province took back from the Railway projectors, who instead received money consideration as assistance to build their roads, and it is now too late to think of its preservation to any

appreciable extent. One thing, however, Ontario at once and Quebec in two years can do, and that is, put a stop to the getting out of square timber in the woods, which not only occasions the loss of one quarter of the most valuable portion of the tree, but the greater destruction arising from cutting down trees to make into timber, but which from some imperfection is found to be unsuited for the purpose, and is consequently left to rot in the woods, although much of it would be found valuable for saw logs. But there is yet a far greater destruction of the forest by fire, which follows the getting out of square timber.

"The square timber man goes into the woods, ransacks them, selecting here and there the best timber, as it brings the most profit, and the scoreblocks and hewings he leaves after him a few warm or dry days turn into kindling wood, which a spark will set ablaze, and this, running along the whole length of the tree, communicates with other waste from other trees and those around which are rejected, until the whole forest is swept by the devouring element.

"It is very rare to find fire running through a forest where timber is cut down and burnt to prepare the land for the plough, as the above means of conveying and disseminating it are wanting. A stop therefore should be put to the making of square timber for exportation, and the Crown Lands Commissioner who neglects to do so commits a crime for which he should, above everything else pertaining to his office, be held responsible. As respects the question of tree-planting, it has often been remarked that 'where you cut down one tree you should plant another,' but this procedure in the woods would only be a waste of time and labor, as a spark reaching the debris of the trees felled would burn up those planted in their stead, and this would, sooner or later, be their fate. The only suitable place to plant is on worn-out cleared lands, or on the prairies, but the latter would require to be planted with trees whose roots penetrate deep in the soil, as they would be without shelter from the winds which sweep over the plains, the force of which would prevent any other description from taking root. It would also be necessary to guard those planted in every stage of their growth from the ravages of the yearly recurring prairie fires which have hitherto kept the country in its treeless state. No provision, however, of the kind indicated, for the supply of our future wants, appears to be yet thought of, and, even if it was at once commenced, the country would be totally stripped of its present stock of timber long before those plantations would be able to afford any appreciable supply of even the softest and most valuable description of wood. And now if, in addition to the course I have pointed out, of saving even to that extent our scanty stock, any information given in this exposition of the supply question should have the effect of inducing our license holders and lumbermen to husband their resources and not throw them away, as has hitherto been too much the case, I shall feel that my labor in that respect has been of some service to them and the country.

"I have now given the only course left us for eking out the time of the total exhaustion of our forest; and when that time is reached—when, instead of our receiving twenty-five millions of dollars annually from our forest, we will be required to send double that amount out of the country for supplies, I will not venture to express an opinion of its effects on our industries, but will merely remark that it would be well for every business man to be prepared to, as our neighbors across the line expressively phrase it, 'stand from under.'"

JAMES LITTLE.

MONTREAL, July 1st, 1876.

NOTE.—White pine in Canada is known in Great Britain as yellow pine.

The following article, contributed in 1880 to the Montreal Horticultural Society, may be worthy of perusal at the present time, relating to "THE TIMBER QUESTION":—

"Witnessing, as I did, while engaged in the business of lumbering, in the Western part of the Province of Ontario, how rapidly one extensive timber section after another was stripped of its commercial wood, my attention was necessarily drawn to an investigation of the extent and sources of supply, both of the United States and Canada, of a material so indispensable in the industries which minister to the wants and well-being of every individual, rich and poor, of our whole people; and fully realizing that the question was beyond dispute one of the most momentous that could engage the attention of our authorities and statesmen, I have been labouring for years, through the press and in pamphlets, to impress upon them the necessity of adopting all possible measures for the preservation of our forests from waste, destruction by fire, the vandalism of the lumberers, and, by withholding from

market such portion of our timber territory as remained unsold, keeping off, as long as possible, the terrible calamity of a timber famine in the country, but without effect. On the contrary, the Governments of both Ontario and Quebec, through their Crown Timber officials, who are generally lawyers, and consequently totally ignorant of the duties they are appointed to administer, have been doing all in their power to hasten the stripping of the country of its invaluable timber resources, by throwing them on the market, year after year, without any reference whatever to the requirements of the trade, and this reprehensible course has been the means of stimulating production to such an extent, by bringing new operators into the field, that the foreign markets have been constantly glutted, the manufacturer, for several years prior to 1886, not realizing the cost of production.

Instead of being obliged, as they should have been, to cut the timber clean out of a place, the lumberers were all along allowed to run over their limits and cull out the best trees, out of which one or two logs, as the case might be, that would saw out clear lumber, were taken out of each, while the greater part was left to rot in the woods, or furnish fuel to burn up the remaining timber, and thus the most shameful waste and destruction were permitted to run riot. The officials at the head of the Crown Timber Department, in both Provinces, gave themselves no further trouble in the matter than that of collecting all the dues they could, their chief object appearing to be to show which party official, for the time being, could make the largest exhibit in his budget speech; while timber, of as much value—if standing to-day in the forest—as would pay off our national debt, has been lost to the country.

Then after showing the enormous value and varied purposes to which the products of the forest were put, as exhibited by the U. S. Census Report of 1870, he said:—

“Now, when we add fifty per cent. to the foregoing exhibit of the partial uses of wood and its value at the present time, can we, with the utmost stretch of imagination, conceive the consequences to the community when the supplies for those industries alone, with their vast yearly increasing requirements, are cut off? The terribleness of the calamity cannot be grasped by the mind, and will only be realized when a dearth of timber takes place—a calamity which, in a comparative degree, we must share with our neighbors across the line, and although it is certain to reach us in a few short years, not the slightest thought has been given to the subject by those having control of our affairs—whether of one political party or the other—and our lumbermen are now in the woods, with double force, slashing away as if timber were some noxious product which it was necessary to extirpate and rid the country of as rapidly as possible. But when we consider that it takes a century to grow a standard pine saw-log, and the U.S. experts who were employed to estimate pine timber in Michigan, Wisconsin and Minnesota, which contain all they have from here to the Rocky Mountains, gives them a supply but for one-tenth part of that time, and, when we take into account that a million and a half of consumers will be yearly added to the population, their whole stock will be swept away before their plantations afford timber for a hoe handle.

“I have watched the course pursued by the lumberers of both the United States and Canada, and it has been reckless in the extreme. A Mr. Ward, of Michigan, is the only one among them who, it appears, is able to take a common-sense view of the question of supply and demand. While others have been slaughtering away their timber and labouring hard to get rid of it, as if of no value, he has been quietly picking up the most valuable lots, and has now, I am informed, secured in Michigan, Wisconsin and Minnesota, some 2,500,000,000 feet. And this he has been able to secure at a comparatively insignificant outlay and with but little trouble or anxiety to himself.

This amount of good white pine timber would be worth in Michigan to day more than \$20,000,000. Timber, which could be bought at that time in Michigan at from \$2 to \$3, or even less, per thousand feet, is now worth from \$8 to \$10 per thousand on the stump.

“The Western papers state that a 100 acre lot of pine was recently sold in Western Ontario for \$22,000, or as much as would purchase half-a-dozen farms with their buildings and improvements in the same neighborhood; and near Guelph, where pine timber on a farm lot was looked upon a few years ago as an eyesore, \$1,000 were recently refused for ten trees, which would not occupy half an acre of ground.

“Our lumberers might surely learn a lesson from those facts. It is evident that the owner of timber land, who sat quietly by without lifting an axe, has been making more money

than if he had been at work in the most productive gold mine. His bonanza is secured, and he will be able to realize its full value in the near future, when, from the falling off of supplies from the West, our lumberers will be called on to furnish the consumption of both white pine and spruce lumber for New York and the Eastern States, requiring them to double their present manufacturing capacity, and enabling them to fix both terms and price."

JAMES LITTLE.

It is only proper to state, and I do so with the greatest pleasure, that since the foregoing article was written, we had in this Province (Quebec) for a number of years, as Crown Lands Commissioner, a gentleman (a lawyer too), the Honorable now Mr. Justice W. W. Lynch, who, possessing the intelligence to fully recognize the true conditions, and aided by that ever-zealous advocate of all beneficial reforms, the Hon. H. G. Joly de Lotbinière, induced the Government of the day to set apart, as a permanent "forest reserve," a large area of otherwise worthless territory on the headwaters of our great rivers, the Ottawa and St. Maurice; and it is to be hoped that our people will have sufficient intelligence not to disturb this truly valuable provision by infringing thereon in any way, for it will not take long to satisfy even the most sceptical of the very great value of a "forest reserve."

EXTRACTS FROM REPORT ON THE FORESTS OF CANADA BY THE HON. H. G. JOLY DE LOTBINIERE, QUEBEC, 1878.

In this report we find, under the heading "State of the Forests," among other remarks made, the following:—

"They (the forests) contain," says Mr. Joly, "a great variety of timber, but I will call your attention principally to the Pine and Spruce, as they form nearly all our export to Europe, and are really the produce of our forest; while the hard-wood we export, especially the fine Oak, nearly all comes at present from the Lake regions of the United States, as we have very little of our own left."

"For some years past," continues Mr. Joly, "the idea has been gaining ground among men who take an interest in the future of the country, that our great Pine and Spruce forests are getting rapidly exhausted, and that before long a trade which enables us to export annually over twenty million dollars worth of timber will shrink down to wofully reduced proportions."

"Thinking men have begun to sound the note of alarm, and we owe it to them, but especially to ourselves as a nation, to try and find out how far their previsions are likely to prove true."

Then, after showing what difficulty the inquiry presents, he says:—

"Let us now try and make an inventory of the timber resources of the Dominion, beginning in the west. On the Pacific shores of the Dominion, in British Columbia, the bountiful gifts of Providence are still stored up for us, and the forests have scarcely been attacked by the lumberman. How long these treasures will last us, and what advantages we shall derive from them, depends in a great measure upon ourselves."

"From the Rocky Mountains to the Province of Ontario there are scattered here and there certain tracks of well-timbered land, but they are the exception. That timber will be required for the local wants of the people who are now only beginning to settle on our fertile prairies."

It is now known that this prairie country will require thousands of millions of feet in excess of its own stock! The report goes on to say:—

"The great forest of Canada, *par excellence*, is spread over that vast territory watered by the Ottawa, the St. Maurice, the Saguenay and their tributaries, over one hundred thousand square miles in extent; before drawing your attention more particularly to it, I will mention our remaining timber limits, that cannot compare with it either for size or resources. They are found in the Georgian Bay country; the Muskoka and Nipissing regions; the Eastern Townships of Quebec and south shore of the St. Lawrence, to the Gulf; the region on the

north shore of the St. Lawrence, from the Saguenay down to the Bersimis, and, perhaps, still lower down, as far as Mingan; and the country watered by the St. John, the Miramichi, the Restigouche and their tributaries. Those limits in many places are scattered and isolated; they have, with few exceptions (such as the Bersimis at the east, and some newly-discovered Pine tracts at the west, on Lake Superior), been worked for a long time, and cannot be expected to supply, much longer, any considerable quantity of first quality Pine, and they still contain an immense quantity of Spruce, principally in the East, sufficient for a great many years' supply, if carefully worked and protected.

"The Spruce, unlike the Pine, reproduces itself with wonderful ease, and a good Spruce country, carefully worked, where you leave untouched all the trees under a certain size, say twelve or thirteen inches at the foot, can be worked and worked again after a very few years' rest, I might say almost for ever.

"As a match to the timber wealth of British Columbia in the west, there have been lately discovered at the extreme east of British North America, in the recent explorations through the hitherto unknown interior of Newfoundland, magnificent forests; let us hope that, before long, they will take their place among our Canadian forests.

"I will now return to the *Great Canadian Forest*, our great Pine country, with its wonderful network of streams, and its three great arteries,—the Ottawa, the St. Maurice, and the Saguenay.

"Does it begin to show signs of exhaustion? It is possible that, in such a short time, man has been able to make an impression upon those millions and millions of acres of forest?

"If there is no sign of exhaustion, what is the meaning of the complaints that come over the seas to us, every year louder and louder, about the falling off, in quality and size, of our Pine, hitherto considered as the finest in the world? Are they no more than the ordinary complaints of the purchaser? I leave it to our lumbermen to answer.

"But, before they answer, I will ask them why are they compelled to go now to such enormous distances for the really superior quality of Pine they used to get so much nearer home a few years ago?

"Look at the map of that great region, and you will see how little of it is now left untouched. On the Ontario side, all the most accessible tributaries of the Ottawa, the Madawaska, the Bonnechère, the Mississippi, the Petawawa, and others, have been worked for years; the lumbermen are now round the eastern end of Lake Nipissing, with the Matawan for an outlet to the Ottawa that can only be reached by a land road; they are still much further north, on the shores of the Montreal River.

"On the Quebec side, they have nearly reached the head waters of all the great tributaries of the Ottawa, the Rivière Rouge, the Rivière du Lièvre, the Gatineau with the St. Jean de Terre and Lake Kakebonga and the Lac des Rapides; they are now working three hundred miles higher up than Ottawa, as the river runs, on Lake Temiscamingue and the Keepawa.

"On the St. Maurice, they are as far up as Lake Manouan, on the western side of the river; its great tributaries, on the eastern side, the Bostonnais and the Rivière Croche, have been deprived of the greatest part of their fine Pine; it is now sought at the head waters of those rivers.

"As for the Saguenay region, it still contains a good deal of Spruce; but there is only a limited extent of Pine still untouched, or nearly so, south of Lake St. John, between the Metabetchouan and the head waters of the Rivière Croche near Commissioners Lake and Bouchette's Lake. There is a little Pine left north of Lake St. John, and a certain quantity on the River Shipsha, and in the Lower Saguenay on the Ste. Marguerite and Petit St. Jean, etc. As for the large rivers that flow into Lake St. John, the Chamouchoua, Mistoussini and Peribonea, the Pine that was on the lower part of those rivers has been nearly all cut, and the remainder of their course from their distant northern sources is through an immense burnt up wilderness, where the vegetable soil has been consumed by fire.

"That huge tract of lumber country, between the Ottawa and the St. Maurice, that separated (or rather appeared to separate) the lumbermen working on those two rivers, by what seemed an inexhaustible and endless forest,—that huge tract is tapped through and through, and the Ottawa lumberman has met the St. Maurice lumbermen on the shores of Lake Manouan. A glance at the map will show what that means.

"Those who think that there will never be an end to our timber may say: 'We can still go north.'

"Not very far north. From Lake Temiscamingue and the Montreal River, on the shores of which the lumberman is plying his axe at this very moment, they cannot go very far north before they strike the height of lands dividing the St. Lawrence water-shed

rom the Hudson's Bay, and the country is generally poor and barren. There is still some fine Pine there, in what quantity is not known, along the head waters of the Ottawa, but it cannot be brought down to market, at least as square timber, until very extensive and costly works have been executed for the improvement of the great Rapide des Quinze.

"Once over the heights that divide the St. Lawrence and Hudson's Bay watersheds one from another, the streams, without which timber cannot be brought to market, all run to the north to James's Bay and Hudson's Bay. Those regions are generally represented as a huge barren wilderness with little timber, and that mostly of a stunted growth. There is, doubtless, some good timber; but the idea of driving it down the Rupert, the Notway, the Harricanaw and all those long rivers, to the shores of James's Bay, and taking it home down Hudson's Bay eight hundred miles long, and through the dangerous Hudson Strait, does not appear very practicable. Whatever timber is there may as well be considered as out of our reach for the present. In the course of time the scarcity of timber fit for export may become so great as to encourage the lumbermen to turn their efforts in that direction; but that region may safely be left out of our reckoning on the present available timber supply.

"In a very short time since the beginning of this century we have overrun our forests, picking out the finest Pine, and we have impoverished them to a serious extent, and, what makes it worse, impoverished the country too, for, owing to the force of circumstances which we shall consider later, our timber export trade has not given Canada such a return as she had a right to expect. There still remains to us a great deal of Spruce and second-rate Pine which, for generations to come, will be in excess of our local wants, if we are careful; but the really fine Pine, required so keep up our great timber export trade to its present standard, is getting very scarce and inaccessible, and I fear we must prepare for a sudden and considerable falling off.

"While every one admits the great value of the timber trade to Canada, no one would complain in a new and scarcely peopled country like ours, if the finest Pine forests were to disappear and make room for fine farms. But, unfortunately, we cannot comfort ourselves with such hope, for the soil of the Pine region is not generally favourable to agriculture, and when the Pine disappears the farm does not very often take its place.

"Men are the same all over the world. They never set much value upon the free gifts of Providence, and disregard them in proportion to their abundance. Timber, fish, and game have been destroyed everywhere in the same way. When what appeared to be inexhaustible becomes exhausted, it then begins to be valuable, and we must pay for our experience.

"Our neighbors in the United States have applied to the destruction of their forests their almost superhuman activity and energy, and they are now worse off than we are for timber. But their eyes are being opened. The President, in his last message, has earnestly drawn the attention of Congress to the subject, and the following quotation from the last annual report of the Secretary of the Interior shows how thoroughly they appreciate the gravity of the situation:—

"The rapidity with which this country is stripped of its forests must alarm every thinking man. It has been estimated by good authority, that if we go on at the present rate, the supply of timber in the United States will, in less than twenty years, fall considerably short of our home necessities.

"It is time that we should turn our earnest attention to this subject, which so seriously concerns our national prosperity."

"Over-production in the timber trade is a greater evil than in any other business, as the raw material cannot be replaced for generations. With a few exceptions, the lumbermen of Canada, as a rule, cannot stop their production of timber; they can scarcely curtail it. Without meaning any disrespect to a class of hardworking, honourable men, I think they may be considered (with the few exceptions above alluded to) as not being *free agents*.

"Their relations with the advancers of money, the banks, the brokers, the purchasers in England, are of such a complicated nature, that it is difficult for them to realise at any time what their financial position is. They know they are dependent upon others; they have been so from the beginning, and they continue so until, at last, after long years of harassing, desperate work, with both body and mind worn out, they find themselves poorer than when they began. The lumbermen have indicated the remedy for over-production, but have not been able to apply it. Each one is ready to admit that he (or rather his neighbor) is cutting too much timber, and that he would make more profit with a less quantity.

"It is bad enough that so much money should be wasted away in cutting down timber for no good; but if there were an inexhaustible supply of timber on the Crown lands, the Government, receiving a larger amount of timber dues than it might otherwise, would not be likely to interfere to protect the lumberman against himself. But our forests are getting rapidly exhausted and their produce sacrificed, and it is a loss for Canada and for the lumbermen.

"Of course the first result of a decrease in the production of timber, in so far as the Government is concerned, would be a corresponding decrease in the Crown lands receipts. I won't call it the revenue, because there is something deceptive in the use of that word. We are apt to fancy that it always means (as Worcester has it) the income or annual profit received from lands or other property. It is nothing of the kind in this case. We have not been spending the income or annual profits of our forests, but the forests themselves; not the interest, but the capital."

DR. ROBERT BELT'S REPORT.

The fact of the pine region of Canada being only limited is clearly shown in the Geological Survey Report, 1880, by Dr. Robert Belt, Assistant Director, in which he says respecting the white pine—"yellow pine" of the British markets—*Pinus strobus*, L.:—

"This and the next species (red pine) have so nearly the same limit throughout the greater part of the northward range, that they are represented on the map both by one line. The red pine, however, does not extend so far east as the white, so that in this direction the line represents only the boundary of the latter. Contrary to popular belief, the white pine is confined to a comparatively small part of the Dominion, as will be observed by an inspection of the map. Its northern limit in Canada extends east as far as Mingan, while to the west it does not reach Lake Winnipeg or Red River. It reaches its lowest latitude opposite to Ottawa city, about $48\frac{3}{4}^{\circ}$, and its highest, about 52° , in the Lonely Lake region. It occurs in favorable situations throughout the greater part of Newfoundland, but it is of best quality and most abundant along the Gander and export rivers on the north, and the Humber on the west side of the island. When coming from Lake Mistassini to Ottawa, by way of the Gatineau River, Mr. Richardson, of the Geological Survey, first met this species at 230 miles north of that city. It occurs of fair size on the head waters on all the principal branches of the Moose River, and in former times is said to have extended considerably further north along these streams. It is now very scarce in most of the regions north of Lake Superior, but small groves of it have been observed as far north as represented. It is scattered over the country between Lake Superior and the Winnipeg River and around Lonely Lake, but it is of rather small size. In approaching Lake Winnipeg the limiting line of this tree curves south-westward, and crosses the Winnipeg River about fifteen miles above Fort Alexander, and then runs south to the United States at some distance east of Red River."

To show what little thought was given to the timber question, either in the United States or Canada, previous to the appearance of the admirable work prepared by Professor Sargent, in connection with the United States Census, 1880, before mentioned, I may remark that no more authentic information was then to be obtained respecting the forests of the United States than is now to be had about those of Canada; for on examination of the United States Departmental publications for information, all I was able to find was a re-translation into English from the French (with the errors usually incidental in such cases) of a letter written by myself, eight years previously, to a gentleman in London, not intended for publication, but which was published in 1874 in the *London Timber Trade Journal*. (See Forestry Report, U. S., 1882, page 285 *et seq.*) From this letter I make the following extracts:—

"Sir,—I find, when conversing with the timber merchants of Liverpool, Glasgow and this city on the subject of timber, that the question of supply for a lengthened period is one to which they have given but little thought, and indeed this is not to be wondered at when the people of the United States and Canada, who are more immediately concerned, have I might say only now begun to reflect on the question, which was brought to their notice in a communication, by the oldest lumberman in Canada, at the National Board of Trade Convention, in October last."

After pointing out the rapidity with which Americans were stripping the forests, and the probability in the not distant future of having to look to the north of Europe for supplies, owing to the cost of getting timber from the Pacific, on account of the enormous annual consumption, which, excluding fuel, was then (1874) considered to be equal to 30,000,000 loads (18,000,000,000 superficial feet), an amount more than double all the sailing tonnage of Europe and America combined, I continued :—

"From the foregoing some idea may be formed of our position, in a few years, for an article so indispensable, considering the greater part of the country is prairie and treeless. Indeed, the vast territory drained by the Mississippi, and comprising fully one-half of the territory of the United States, has been, not inaptly, described as a huge farm with a small grove of timber in its north-east corner.

"The Eastern or New England States, comprising Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island, and the Middle States of New York, New Jersey, Delaware, Maryland, Pennsylvania, Ohio and Indiana, were at one time dense forests, and within a few years most of them had large tracts of the finest pine timber. These States are to-day almost destitute of that wood, and indeed Maine alone excepted may be said to have but little of any kind left; and at the present time they are sawing up all kinds of timber, and are compelled to purchase largely from Michigan and Canada to supplement their almost exhausted stock."

Then after referring to the forests of the Southern States possessing pitch pine and cypress—both valuable woods—and containing but little white pine, and since that stock was steadily undergoing depletion, both for home consumption and export of these timbers and hardwoods, there could have been but little to dispose of for any great length of time :—

"To the west and north-west of the Rocky Mountains, there are Texas (Western), New Mexico, Arizona, Colorado, Kansas, Nebraska, Dakota, Eastern Montana, Illinois, Iowa, most of Missouri, that part of Minnesota west of the Mississippi, and the southern part of Wisconsin, all chiefly prairie and an almost treeless territory.

"On the Pacific side there are Washington and Oregon, which alone have timber to spare, and which they are distributing to the south along the whole western coast of North and South America. The remaining States of California and Nevada having only about one-fifth part timber, or an amount hardly sufficient for their own requirements.

"As regards the Dominion of Canada, which is supposed by some to be one endless, unbroken forest, it has (when we consider its great area) but a small proportion of forest of any kind. British Columbia, on the Pacific side, which is at present beyond our reach, may have timber to spare. Then there is the Saskatchewan Valley, with an extent of country, principally prairie, large enough, it is said, to make thirteen States the size of the State of New York. Next comes the Red River country and Manitoba, without timber to any extent. Then the rocky, almost barren district north of Lakes Huron and Superior. Here we reach the present Province of Ontario, formerly Canada West or Upper Canada. This was truly a magnificent forest country, probably unsurpassed on the face of the globe in the finest pine, oak, elm, ash, walnut, and whitewood; but the most of this timber was burnt off to clear the land for farms, or used for fuel, buildings and fences, and a large amount of that remaining has been otherwise used up or exported; so that to-day the oak, ash, elm, walnut, and whitewood are about gone; the oak, which now leaves Quebec, is principally from Michigan or Ohio; the walnut and whitewood you get from Indiana, Ohio, or some Western State. This pine would have been burnt off, too, in the same way as most of the other timber, but for the difficulty in clearing this land, owing to the number of trees and the greater amount of timber to be got rid of.

"This Province of Ontario is at present using up a large amount of pine timber in its own internal improvements; and, excepting, perhaps, that part of its pine bordering on the Ottawa and its tributaries, it would be acting only prudently by retaining every remaining stick for its own use.

"In the Province of Quebec, on the banks of the Ottawa and St. Maurice rivers and their tributaries, lies nearly the whole wealth of white pine timber to spare in the Dominion of Canada, east of the Rocky Mountains.

"The spruce district is confined chiefly to the Lower St. Lawrence, the St. Francis district, or Eastern Townships, and the Provinces of New Brunswick and Nova Scotia; and when it is seen these pine and spruce sections have been worked over for years, both

for home consumption and export, many of them the greater part of a century, we need not be surprised, when advised by those who profess to be well informed on the subject, that the white pine yet remaining in the Provinces of Ontario, Quebec, New Brunswick, and Nova Scotia would not afford a full supply of timber to the United States alone for a period of three years."

WILLIAM LITTLE.

LONDON, March 30, 1874.

I insert an editorial article, advertizing to the subject, from the latest issue (May 28) of *Garden and Forest* (New York), a very valuable journal conducted by Professor Charles S. Sargent, Harvard University, Special Agent, United States Census, 1880, above mentioned, as corroborative of the views I hold on this momentous question:—

"In a recent communication on the proposed changes in our tariff on lumber made to the *Canadian Journal of Commerce*, Mr. William Little, of Montreal, one of the best informed lumber-men of America, discusses the present condition of the standing pine in the States of Michigan, Wisconsin and Minnesota, once the chief source of the pine supply of the United States, and reaches the conclusion that the great White Pine-forests of this country have vanished practically for all commercial purposes. He takes, as an illustration of his position, the Pine-forests of the lower peninsula of Michigan, in which it was estimated by the officers of the United States Census that there were standing in 1880 29,000,000,000 feet of merchantable White Pine. In 1889 the editor of the *Chicago Timberman* made an investigation of the merchantable pine standing in the same region, and found only 3,000,000,000 feet. Some of this was cut last winter, so that, if these figures are correct, there is not now pine enough in the lower peninsula to supply the saw-mills of the State for more than six months. It should be remembered, however, as Mr. Little points out, that there are still left gleanings from third or fourth cut burnt-over stump-lands, which produce grades of lumber of very inferior quality, some Red Pine and some inferior Hemlock, which may keep the mills running for a short time.

"Mr. Little then assumes that it is fair to suppose that the Census estimates of pine standing in Minnesota, Wisconsin and the upper peninsula of Michigan were as nearly correct as experience has shown those of the lower Michigan peninsula to have been, and, taking the Census figures of 55,170,000,000, and deducting the amount which has been cut during the last ten years, 37,451,341,338 feet—the figures recently prepared by the *North-western Lumberman*—he finds only about 20,000,000,000 feet standing in the three States, from which must be deducted the cut of last winter, rather more than 8,000,000,000, leaving a little over two years' supply of standing pine in the whole of the North-West.

"Correct estimates of standing timber are exceedingly difficult to make and to verify, but by a system of averages extending over very large areas, comparatively accurate results can be obtained, and it is not probable that the figures given above vary very far from the truth. They are not needed, however, to prove that the time is at hand when the North-Western States will cease to be great lumber producers. This is abundantly shown by the fact that the most intelligent lumbermen of that region have for several years been engaged in securing great bodies of Pine-timber in the Southern States, and of Spruce and Redwood on the Pacific coast. The increased number of destructive fires in saw-mills all through the North-Western States, which have been noticed during the last two or three years, is another infallible sign that their business is approaching the end.

"There is no hope that these great forests, which have been wasted as forests have never been wasted before, will ever be reproduced. Their end finishes the prosperity of a large section of the country, and marks a period of folly and extravagance which seems, as we look back on it, simply incredible. And yet these forests, if they had not been called upon to yield annually more than their natural yearly increase, and if they had not been wasted, might have been productive forever, and insured permanent wealth and prosperity where ruin now stares the community in the face. National calamities like the extermination of our Pine-forests are slow in making themselves felt, and the closing of a saw mill and the ruin and abandonment of a town have, at first perhaps, only local significance. In the end, however, the country wakes up to the fact that a few men have made themselves enormously rich, and that nothing is left but blackened stumps and barren soil to show where once forests existed; and that one of the principal sources of national wealth has gone forever. . . . And yet for ten years the American people, fairly warned of what was coming, have sat quietly by and looked with barely a word of protest against the extermination of the forests in every part of the country."

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