

The American timber supply

New Hampshire
Land Company

THE
AMERICAN TIMBER SUPPLY.

STATEMENT

OF THE

PROPERTY IN TIMBER LANDS

BELONGING TO

THE NEW HAMPSHIRE LAND COMPANY;

ALSO ITS

PLAN OF ORGANIZATION.

CAPITAL, 3,000,000 ;

DIVIDED INTO ONE HUNDRED AND TWENTY THOUSAND
SHARES, PAR VALUE \$25.00,

OF WHICH

TWENTY THOUSAND SHARES, PAR VALUE \$500,000, ARE
IN THE TREASURY.

OFFICE OF THE TREASURER AND SECRETARY,
No. 35 CONGRESS ST. (ROOM 38), BOSTON, MASS.

1880.

28946

STATEMENT.

THE New Hampshire Land Company is a corporation, under a comprehensive charter by the State of Connecticut, for carrying on a general Lumber, Manufacturing, Railroad, Real Estate, Mining, and Mercantile business.

The Capital Stock of this Company is \$3,000,000, divided into 120,000 shares of a par value of \$25 each. Of this amount, \$500,000 in stock, represented by 20,000 shares of a par value of \$25 each, belongs to the treasury of the Company, the proceeds of the sale of which are to be devoted to the purchase, management, and development of timber lands.

The principal office of the New Hampshire Land Company is at No. 35 Congress Street (Room 38), Boston, Mass., where the President, Treasurer, and Secretary are located, and also where certificates of stock are issued and transferred. The Connecticut office of the Company is at No. 14 State Street, Hartford, Conn.; the New Hampshire office, at Plymouth, N.H. The Company has an able corps of local agents, surveyors, and explorers. Eminent New Hampshire counsel have been retained to watch, protect, and defend the rights and claims of the Company.

OBJECTS OF THE COMPANY.

Its primary object is the development of the lumber business in Grafton, Carroll, and Coos Counties, New Hampshire.

First.—By possession in fee-simple of vast tracts of valuable timber lands in the above-named sections of New Hampshire.

Second.—By purchase of such desirable blocks of well-timbered lands as may be in the market for sale at low prices.

Third.—Sale of standing timber or stumpage, by the thousand feet, to lumber manufacturers and small operators.

Fourth.—Renting of saw-mills already built to manufacturers of lumber.

Fifth.—Sale of stumpage to parties cutting fire-wood for market or for burning charcoal.

Sixth.—Construction of narrow-gauge railroads on territory belonging to the Company, for facilitating the lumber business and for the accommodation of mountain travel.

Seventh.—Operating or leasing such railroads as may be part of this Company's property and situate on Company's land.

Eighth.—By sale of lands, titles, and quit-claims to properties owned or claimed by the Company, either for lumber, mining, mercantile, or transportation purposes.

PROPERTY OF THE COMPANY.

One hundred thousand acres heavily wooded lands held in fee-simple, and situate in the towns of Livermore, Franconia, Lincoln, Bethlehem, Woodstock, Sandwich, Waterville, Ellsworth, and Thornton, N.H.; also in several unorganized gores and locations, conveyed through early State grants. One hundred and forty thousand acres, more or less, of heavily wooded lands in the counties of Grafton, Carroll, and Coos, N.H., held under deeds from the State of New Hampshire, given in accordance with a joint resolve passed by the Senate and House of Representatives, in General Court convened, and approved by Walter Harriman, Governor of New Hampshire, June 28, 1867. The quantity of these State lands thus covered by the State deeds held by this Company is variously estimated by those competent to judge, even as high as 250,000 acres. No one, however, doubts that by the judicious use of the amount in the Company's treasury, in the way of compromises, purchase of undivided interests, legal actions, and in the settlement of disputes, it is perfectly safe to estimate the quantity of lands to be secured for the benefit of the New Hampshire Land Company, from this source alone, at from 140,000 to 200,000 acres.

These vast tracts of primeval forest form the largest and finest block of timber lands in the Eastern States, within easy distance from Boston, Lowell, Portland, Lawrence, Worcester, and other large New England cities. The principal areas are situated in the valleys of the following rivers: the Pemigewasset and its numerous branches; the Saco and its tributaries; also the branches of the Ammonoosuc. Unequaled railway accommodations for the transportation of the products of the forest are furnished by the Boston, Concord, and Montreal Railroad, the Portland and Ogdensburg Railroad, the Portsmouth, Great Falls, and Conway Railroad; also by several projected branches through our territory. The enormous quantities of lumber, wood, and charcoal to be shipped from the lands of the New Hampshire Land Company, will always be transported at a reasonable rate, because of the competition between the several railway corporations named above, and also by reason of the possibility of floating logs down the rivers, in case any of the transportation companies demand extortionate rates of freight.

Until the recent completion of a comprehensive railway system, almost surrounding this property, much of its value was unavailable; while, with the facilities now presented, almost every acre is rendered easy of access. Bearing in mind that this great body of timber is only six hours' ride from Boston, or within two hundred miles of New England's metropolis, its full value can be appreciated. In fact, any one of the above-named railroads will freight a thousand feet of lumber from the lands of this Company to Boston cheaper than the same quantity could be delivered, by team, from Newton to Boston. Thus are timber lands, situate on lines of railway, within one hundred and fifty to two hundred miles of Boston, worth for wood and timber, practically, nearly as much as similar lands, within teaming distance of the city. Railroading is yet in its infancy; and it is certain that lumber and wood from the lands of this Company will, in the near future, be transported at very low rates of freight, when supplied in large quantities at regular intervals.

This valuable property is one of a tangible and permanent character, and one that is constantly increasing in value, as the supply diminishes. Its value is apparent to the eye: it may be seen and comprehended. Unlike the mine, whose possible treasures are merely problematic, the forest products are above the surface, may be estimated and surveyed. Lumber is an important factor in civilization, and its manufacture is a thoroughly legitimate business operation. Trees from one hundred to two hundred years old cannot be duplicated at the asking. Nothing on earth to-day is selling so cheaply, as compared with the cost of reproduction, as forest trees. Volumes have been written, urging the business of tree-planting, even based upon its pecuniary advantages. Yet, however beneficial such an industry may prove to its projector, or to the locality in which the planting is pursued, its possible profit is totally eclipsed by the present value and future prospect of acres of original forest. Suppose, for instance, an acre of land be purchased for \$10, and planted with forest trees, at a first cost of \$25. Now, allowing nothing for subsequent care and cultivation, taxes or other expenses, let us see what the principal and interest would show at the end of one hundred years, the average age of valuable forest trees. Thirty-five dollars, invested at six per cent., would, even at simple interest, double every sixteen years; say, \$70 in sixteen years, \$140 in thirty-two years, \$280 in forty-eight years, \$560 in sixty-four years; in eighty years, \$1,120; in ninety-six years, \$2,240.—representing the cost and interest of the artificial planting of an acre of forest trees and their growth to maturity. Aside from the natural impatience of our American people in attempting to raise such "century plants," it is evident that the average investor would be far better satisfied in paying a few dollars for an acre of the heavily wooded land of the New Hampshire Land Company than in the most brilliant attempt at raising the same from the seed. Any estimate of this kind gives additional value to forest trees already grown and ready for market.

Especially in these days of mining enterprises and specu-

lative ventures, the possibilities of 240,000 acres of land situated in the mineral belt should not be lightly regarded. While it is not expected that this Company will devote any capital in the explorations for or development of mines or mining on its lands, yet the existence of veins of iron, silver, and galena upon this territory, is claimed as a certainty by those who have been in position to know. That such deposits have been found in the immediate vicinity of these lands is a matter of common report; and it is reasonable to suppose that the mineral wealth of these vast areas of land may, at some future day, add largely to the resources of the New Hampshire Land Company. Maine and New Hampshire seem to have quite a present reputation as mining regions of considerable promise. It will be distinctly understood by the stockholders of this Company that nothing has been paid for any possible mineral wealth within the boundaries of its possessions.

TESTIMONY OF AN EXPERT.

To obtain trustworthy data concerning the value of the property now held by the New Hampshire Land Company, many experts have been employed, upon whose favorable opinion many purchases have been based. It is the unanimous expression of all whose opinion is founded on individual knowledge of the facts, that the vast tracts of land held by our Company are the most valuable now in existence in New England, and the most desirable for investment by those who wish to secure an interest in accessible forest lands. Among the reports of experts, the following from George T. Crawford, of New Hampshire, is given:—

NORTH CONWAY, N.H., March 15, 1880.

TO THE PRESIDENT AND DIRECTORS OF THE NEW HAMPSHIRE LAND COMPANY:

Gentlemen,—As a surveyor, explorer, and lumberman, I have been familiar during the past thirty years with the large tracts of timber land in Grafton, Carroll, and Coos Counties, owned and controlled by your Company. I have no hesitation in saying that I know of

no other tract of its size so available to market or so valuable in its growth. The average quality of the timber is equal to any in New England. From the railroads and streams running through this territory, its accessibility is beyond comparison with any other lot of its size in this section of the country.

Having had occasion for many years to examine titles and ownerships to timber lands in this section, I feel very certain that under the State deeds to your Company, and through the use of the amount in your treasury, from 150,000 to 200,000 acres of forest land may be secured as yours, in addition to the large tracts held in fee-simple by your Company, thus forming the finest block of timber lands under one ownership in New England, and a tract which must increase very fast in value the next few years. All the area of New Hampshire, south of these tracts, is almost completely cleared of the original timber growth; while the extensive lumber mills in all parts of the State are rapidly reducing the area of timber lands.

I make the following estimate of the average growth of these lands per acre, all of which will be available to the railroads now constructed and under contemplation: spruce timber, five thousand feet to the acre; pine, fifty feet; hard wood, two thousand feet; cord wood suitable for market and charcoal, forty cords to the acre. Many acres will of course yield far greater products, while others will be less productive; but the average above stated will yield handsome results to a corporation able to conduct so large an operation.

As soon as your territory is opened up to operators in wood and lumber, you will find a large demand for stumpage, at paying rates. There are no timber lands, within the range of my knowledge, which present greater inducements for investors than those now offered by the New Hampshire Land Company.

Very respectfully yours,

GEORGE T. CRAWFORD.

PROPERTY VALUE REPRESENTED BY EACH SHARE OF NEW
HAMPSHIRE LAND COMPANY'S STOCK.

From the most careful estimates of able and experienced experts in the value of timber and wood lands, the following statement of the property value represented by each single share of the capital stock of the New Hampshire Land

Company is believed to be approximately correct. Each share of the capital stock represents, at least, two acres of forest land. Each average acre carries:—

5,000 ft. spruce, worth on the stump, \$3 per 1,000 ft.,	\$15.00
50 ft. old timber pine, worth on the stump, \$12 per 1,000 ft.,60
2,000 ft. hard wood, worth on the stump, \$4 per 1,000 ft.,	8.00
40 cords firewood or charcoal wood, \$1 per cord,	40.00
Value of the acre for reproducing wood and timber,	<u>3.00</u>
Total value on each acre when growth is removed,	\$66.60
Value of property on two acres,	\$133.20

Thus it will be seen that for each share in the capital of the New Hampshire Land Company, of a par value of \$25, *the owner secures a property worth \$133.20, if the growth be marketed to-day.* And let it be understood these calculations are based on present prices for lumber, which rates are very much lower than those which prevailed in market seven years ago, as also far beneath the probable selling price of the future. Such an exhibit should be attractive to every investor who desires to purchase most approved and available real estate. Few mining enterprises, or other risky ventures, make so good a showing of almost certain returns as do judicious investments in well-located and well-covered timber lands. Nothing in the future can diminish the value of good timber lands, while numerous causes conspire to promise almost fabulous prices for such property in the not far distant future. In a few years, the bulk of the timber lands of New England will be held by a few capitalists and lumber-dealers who will appreciate their intrinsic value, and who will not pursue the almost suicidal policy of overstocking the lumber markets with the products of the forest. Let the supply be regulated by the demand rather than by the necessities of impecunious manufacturers, and prices for lumber will tally nearer its true value than has been the case in the past.

AGGREGATE VALUE OF THE PROPERTY BELONGING TO THE NEW
HAMPSHIRE LAND COMPANY.

Estimating the total area at 240,000 acres, each acre averaging to carry 5,000 feet spruce lumber, 50 feet pine, 2,000 feet hard wood, and 40 cords wood and charcoal wood, and then calculating the stumpage on the land, with superior railway facilities, to average \$3.00 per thousand for spruce, \$12.00 for old growth' pine, \$4.00 for hard wood, and \$1.00 per cord for cord wood, and we have the following results:—

240,000 times 5,000 equals 1,200,000,000 ft. spruce, at \$3 per 1,000 ft.,	\$3,600,000
240,000 times 50 equals 12,000,000 ft. pine, at \$12 per 1,000 ft.,	144,000
240,000 times 2,000 equals 480,000,000 ft. hard wood, at \$4 per 1,000 ft.,	960,000
240,000 times 40 equals 9,600,000 cords wood, at \$1 per cord,	<u>9,600,000</u>
Total value of the property, if cut off to-day, . . .	\$14,304,000

Add to this grand total the value of the lands for producing a second growth of timber and wood, which, when the first crop is cut off, will have enhanced in value beyond the most sanguine calculations of the present time.

Every advance of \$1.00 per thousand feet in lumber should advance the price of stumpage (or value of standing timber) by at least fifty cents per 1,000 feet bound measure, or a total gain to this Company of upwards of \$800,000. The signs of the times point to a rise of several dollars per thousand feet over prices now prevailing, which must double the above-estimated values within five years. For the ten years preceding 1873, spruce lumber averaged at least \$5.00 per 1,000 feet higher in price than during the past seven years. At present, a large percentage of the lumber supply of New England is derived from the West. In fact, to-day Chicago really determines the price of lumber over most of the United States. Hence until the East is forced to rely upon her own resources for lumber (a result which the rapidly growing Western demand will soon determine), our markets are influenced by those of the West. Within the past six months, the price of Western pine lumber in this and other Eastern markets has advanced from \$4.00 to \$15.00 per 1,000 feet,

according to the variety and quality of the lumber. What must naturally be the effect on 1,700,000,000 feet owned by the New Hampshire Land Company? What investment can be more certain in its returns?

Again, in the value of wood, which during the last few years has ruled 40 to 50 per cent. lower in price than for the ten years prior to 1873, may we not reasonably expect a return to former prices within a short time? An advance of but 25 cents per cord stumpage on the 9,600,000 cords of wood owned by the New Hampshire Lumber Company would give an additional value to its property of \$2,400,000; while an advance of 50 cents per cord stumpage on wood—certainly not an unreasonable supposition, in view of the rapidly decreasing forests throughout the continent—would add \$4,800,000 value to the property of this Company.

What other class of investments, so safe in their character, so certain in their remunerative results, so accessible, so easy of examination, can show such a magnificent footing, or such possibilities in the near future? A rapidly increasing demand coupled with a rapidly diminishing supply. In any other line of staple goods, excepting lumber, such a condition of affairs would result in a panic,—an unhealthy advance in prices, a wild speculation, a “corner.” Capital would flow in streams to purchase a staple article whose supply was fixed and the demand for which was gaining by at least 25 per cent. annually. A Vanderbilt, a Gould, a Keene, or other large operators, often controls capital enough in one operation to purchase every acre of timber land in the New England States,—a result which, if brought about, would enable the purchaser to advance the price of spruce lumber by \$10.00 per 1,000, taxing the consumers in this section at least \$10,000,000 annually. Considering the lumber situation, it is a wonder that associated capital has never, prior to the organization of the New Hampshire Land Company, ventured into a field at once so promising in its character and so devoid of all the uncertainties of speculative schemes. Timber lands are the most profitable holding of any class of real estate.

Boston capital is seeking remunerative investment in

the silver mines of Colorado, Arizona, and Nevada, in the gold fields of Chili, California, and Oregon, in the copper deposits of Lake Superior. Our capitalists are subscribing for blocks of the capital stock of railroads to be built in locations and between points unrecognized upon any recently published map of the country. Enterprise and the desire of rapid accumulation lead even the most conservative men to extend their lines of investment to points almost beyond their reach, certainly beyond their control and oversight, attracted by the glamour of extraordinary dividends. How much better an investment in substantial real estate, within six hours' ride of Boston, in a property like the broad acres of the New Hampshire Land Company, comprising an area nearly one-third that of the State of Rhode Island, or one-twentieth that of Massachusetts? The intrinsic value of such a body of full-grown timber lands is attested by the actual demand, under our own eyes, of its products, by positive knowledge concerning the future scarcity of wood and timber in this country, by the certain conclusion that such lands can be purchased at a figure lower to-day than will ever occur again. No other property in the world has such elements of real value, none so difficult or expensive to duplicate. All the civilized governments of the world are urging the people to plant trees. Our own general government, most of our State governments, our agricultural societies, are offering arguments, bounties, and rewards for tree-planting, which costs \$25.00 to \$100 per acre; while, in the face of all this pressure, the New Hampshire Land Company offers 240,000 acres of old forest growth, the products of which are ready for market, at a price per acre less than the cost of seeds and planting to a beginner in forestry. Never was so attractive an investment offered, the location of which was less than two hundred miles from Boston.

The value of detached parcels of timber land, held by numerous owners, many of whom may be possessed of but limited means, with no connected purpose or general aim in the workings, is greatly enhanced when a strong and powerful corporation represents these scattered interests, and when

the development of these fine tracts of forest growth is under a single management for definite purpose and comprehensive aim. Thus the value of the land in certain valleys, nominal while held out of the market by the hundred owners, who will consent to no associated action, becomes immediately available and immediately valuable, when a corporation with ample capital controls the land, builds a narrow gauge railroad through its entire length, opening it up to the notice and use of enterprising lumber operators. A hundred owners with no concert of action may lose money in operating, while a single concern could make the business exceedingly remunerative. Again, weak holders of timber, to answer their immediate necessities, are inclined to flood the market when low prices prevail, thus making the depression still greater; whereas an abler and richer owner would first wait for a demand before manufacturing a supply. It is now high time that the small amount of remaining timber lands in this section should be held by stronger hands than formerly, netting their owners a fair equivalent for their cost and worth. This valuable material is being marketed year after year, with little profit to its owners, simply because the market is forced in advance of its actual requirements. Spruce lumber would advance \$5.00 per thousand within a year, if the supply simply fed the demand.

SOURCES OF INCOME.

It is proposed that the New Hampshire Land Company, controlling as it does some of the finest timber land in New England, should secure its income from the development of its property through railway systems already in operation and projected, and through sales of the right to cut logs on its territory at a stated price per thousand feet or at a certain rate for stumpage (trees standing). The income from timber lands to the owner or capitalist is far greater and more certain through the sale of stumpage to lumbermen than by any attempt at logging and manufacturing. Profitable lumbering can only be conducted by those who give

personal attention, upon the spot, to every detail. Few instances are recorded where city dealers or capitalists, situated at a distance from their property, ever made any money in manufacturing lumber; yet immense fortunes have been secured by the owners of timber lands who were satisfied to sell stumpage at fair prices to regular operators. There are several mills already in operation, where proprietors would gladly contract to purchase given quantities of stumpage annually from the lands of the New Hampshire Land Company, and at prices fully equal to those named in this pamphlet. The same may be said in reference to the cutting of cord wood for various interior markets, as well as material for charcoal burning and for paper pulp. In other words, through the employment of one or two trustworthy surveyors and managers, the whole business of converting the forests under the control of this Company into cash can be reduced to a simple system, effective in its workings and satisfactory in its results. At present prices of lumber, wood, and charcoal, the profit on the sales of stumpage would be a handsome source of revenue, while the certain and large advance which the next few years is sure to witness will more than double the possible income at present. Large sales can also be made of growth suitable for grinding into pulp for paper-making, also of hard wood for spools, pegs, bobbins, and furniture.

Yet, however attractive a present income from these lands may appear, resulting from immediate cuttings, the aggregate would be dwarfed by the possibilities of these lands a few years hence. With a definite and stated amount of timber lands, subject to rapidly increasing destruction through the woodman's axe, no possible method could be suggested by which so large results could be attained from these lands as by holding them intact for a few years. The forests of the country are being sacrificed, with insufficient profits. The lumbermen's aim seems to be to crowd the markets with a surplus of lumber, regardless of price obtained. There is a fascination about the lumber business that leads men, especially the small operators who are more

or less embarrassed financially, to cut logs and saw lumber, marketing the manufactured product without profit, and in the face of a limited demand. A strong corporation would have no necessity for operating in this manner. Were it advisable, the New Hampshire Land Company, by declining to sell or cut a log for the term of five years, would find market values so enhanced as to give far greater returns than could be secured through immediate cuttings. However, a wise policy will probably dictate limited annual cuttings, sufficient to secure yearly dividends, preserving these grand old forests for many future years of service and profit, and in position to improve the certain opportunities of marked advance in the future.

Embraced in these vast areas are some fine locations for farms, which, after the growth is removed, would sell for good prices to the cultivators of the soil. It would probably be advisable to dispose of such lots, whenever a favorable opportunity was presented. Finally, it will undoubtedly prove to be the case that valuable deposits of minerals will be found on the mineral belt covering a large portion of this area. While it may never be advisable for this Company to conduct any mining operations, yet sales of mineral properties might prove a considerable source of income. Very accessible and easily worked granite quarries are also said to exist upon the property. Once open to exploration, stimulated by the slightest encouragement, a number of individuals, experts in the business, are disposed to examine portions of this territory with a view of discovering veins of minerals and developing their value.

QUALITY OF TIMBER.

Among the most important and valuable varieties of forest growth on this magnificent body of land are the following :

Spruce. Of a superior quality, containing a heavy percentage of fine, large, long timber, suitable for dimension orders for stores, warehouses, and dwellings. The bulk of the spruce is free from seams, is smooth-bodied, sound,

making superior lumber either for frames, boards, clapboards, laths, or shingles. A new use for spruce logs is found in the demand of the paper-makers in grinding into pulp for white paper.

Pine. Many old monarchs of the forest are still found in these hitherto almost inaccessible regions. This pine is the old timber growth, cork pine; and though the trees are quite scattering, yet, in so large an extent of territory, the aggregate amounts to several millions of feet. This pine is very valuable, and, with improved facilities for transportation, would command \$12 to \$20 per one thousand feet stumpage.

Hemlock. The percentage of this wood as compared with other varieties is not large, though its quality is superior. The scarcity and high value of hemlock bark, as well as the demand for hemlock boards, render this growth a very desirable accession.

Poplar. A wood which but a few years ago was considered of very little value is to-day in active demand for paper-maker's use in grinding pulp. A well-known firm of paper-makers have purchased one thousand acres of poplar growth in the vicinity of our lands, at a cost of \$20 per acre. A ready market exists for large lots of poplar.

Maple. This valuable wood is found in large quantities, and for many mechanical purposes is in request at remunerative prices.

Birch. Yellow and gray birches grow to immense size in these forests, yielding ships, keels, shoes, planking, and the like. Furniture dealers use large lots of this wood, and the English markets absorb large quantities of American hewn birch at high prices. A remarkable fact exists concerning white birch, a growth that is quite abundant. Twenty-five years ago, it was the least esteemed of any hard-wood lumber, land covered with white birch being considered worth only what it would produce in cord wood. Now high prices are obtained for white birch from manufacturers of shoe-pegs, spools, and bobbins.

Beech is found growing to a large size, and of a close-grained and most superior quality.

Ash. This valuable variety exists to a considerable extent, some specimens of second growth white ash being very desirable.

Cedar is not found in large quantities. There is scarcely any swamp land in the territory owned by this Company; hence what cedar there is grows on high land, and, though rather small, is sound and makes good shingles.

Hackmatack grows here only in limited quantities, owing to the high and generally dry character of the land.

SPRUCE AND PINE LUMBER.

Spruce and pine are the prevailing soft-wood growths on the New Hampshire Land Company's property. Spruce has always been sold relatively too low in comparison with pine. Now, however, its price is commencing to approximate more nearly to pine. The use of spruce is rapidly extending into frames of buildings, covering, roof boards, flooring, finish, sheathing, and even mouldings. Cases and dry-goods boxes, also sugar-box shooks, are frequently made of spruce lumber. The area of spruce lands is much more limited than that of pine growth. Lands yielding spruce are mainly confined to New England, New York, Province Quebec, New Brunswick, and Nova Scotia. No spruce is grown in the Western, Southern, or Pacific States. Spruce improves in size, height, and vigor with the latitude, up to a certain point. It is probably most perfect in the Pemigewasset Valley, N.H., in Essex County, Vt., and in Northern Maine. The valuable properties of spruce are strength, lightness, elasticity, and durability. For instance, as combining these in a higher degree than any other wood applicable to the purpose, spruce is used for the smaller spars of ships. Nothing is superior to this wood for house-frames, covered girders, trusses, and the like. Considering the limited area of spruce lands and the increased demand for this valuable wood, it is within the bounds of possibility that, in the near future, spruce lumber will command at least as high prices as pine. This state of affairs will have a decidedly beneficial effect upon the investments of the New Hamp-

shire Land Company. No other large body of spruce on this continent exists so near large markets as that controlled by this Company.

Of the white pine, many millions are still left scattered through the lands of the New Hampshire Land Company. Many noble specimens are still found on the banks of the east branch of the Pemigewasset, some of which will scale 4,000 to 5,000 feet to a tree, yielding a splendid revenue when cut to the proprietors of the forest. The white pine is much the tallest and most stately of our native trees. Some are still found reaching nearly to 200 feet in height. It is not half a century ago since pines were standing, in the eastern part of New York, which measured 240 feet. In most accessible localities, the largest and most valuable timber trees have long since been cut down. In parts of New England, pines were found measuring 250 feet in length and 6 feet in diameter. One in Lancaster, N.H., formerly measured 264 feet in length.

SUPERIOR ADVANTAGES OF AN INVESTMENT IN THE NEW HAMPSHIRE LAND COMPANY'S PROPERTY.

1. Real estate is the safest of all investments, and the most certain to appreciate in value during a term of years.

2. Timber lands are the most valuable of all the forms of real estate,—the most difficult to duplicate, and the most promising, both in remunerative returns and future enhanced value.

3. Such lands as are situated on lines of railway communication are worth quadruple the value of those located upon streams, lakes, and rivers, since every piece of hard wood or cord wood on the former can be utilized, sold and delivered at any season of the year.

4. The lands held by the New Hampshire Land Company are of great value from the heavy growth of timber carried, from their accessibility, and from their favorable location.

5. With three-quarters of the original store of timber in New England consumed, and with the demand accelerated,

it is only a simple mathematical calculation to determine the proportion which the demand and supply will bear to each other at the close of the present century.

6. A tree in a forest is an investment of capital increasing in value as it grows, like money at interest, worth at any time what it has cost.

7. Individual ownership is hardly equal to the business of controlling large blocks of timber lands. Associated effort affords improved opportunities for investing in the most valuable of all real property, and in its proper care and guardianship.

8. In a pecuniary sense, the purchase of fully grown trees is far more advantageous than any schemes of tree-planting which a man ordinarily practises only with a hope that his children may be benefited thereby. If it will pay to plant trees and await their growth, a judicious investment in trees already grown, and at one-tenth the cost, must be one of great profit.

9. Thrifty growing trees are estimated to increase annually in size enough to pay the interest on their cost, in addition to an increase in value through rapidly increasing consumption of forest products. Every year lumber will command increasing prices.

10. There is no other such block of timber lands in New England as that possessed by the New Hampshire Land Company, in so close proximity to Boston, Lowell, Lawrence, Worcester, and other large markets.

11. Transportation facilities are unequalled, embracing the Saco, Pemigewasset, and Merrimack Rivers; also the Boston, Concord, and Montreal, Portland and Ogdensburg, Portsmouth, Great Falls and Conway Railroads, thus insuring reasonable freights and approved facilities.

12. Rates of freight are lower from these lands than from any other large area of forests in New England. Every dollar saved on freight adds to the value of the tree standing.

13. Investors are learning to appreciate the intrinsic value of such property as can be examined and understood by

them, such as is located in a pleasant and accessible country, and such as is constantly increasing in value.

14. Lumber mills on Eastern rivers can only ship to water markets, requiring additional handling, loading, and freighting, at local rates, to interior points. On the other hand, the lumber products from the New Hampshire Company's lands can be freighted either to seaboard markets or at low rates of freight direct to interior markets. Winter-sawed spruce orders, impossible to the Maine river mills, always command high prices.

15. Experienced and trustworthy explorers pronounce the lands of the New Hampshire Land Company as heavily covered with timber of most desirable quality. As a whole, its superior does not exist in New England.

16. Purchase of timber lands at the present time, after seven years' depression, carries with it a certainty of far higher prices in lumber, and consequently remunerative returns from the investment.

17. Markets are already established for the forest products from the New Hampshire Land Company's property. Mills are already built, which will require saw logs from this territory. Large contracts can be made at once for logs, wood, and charcoal from these lands.

18. Never again can timber lands be purchased at rates so reasonable as now prevail, since the area of available and valuable forest is annually diminishing, while the demand for its products is rapidly increasing.

19. This vast property is under the management of individuals thoroughly conversant with its merits and value, and fully able to develop its resources in a legitimate way, and to the end that it may return handsome dividends to its owners. A majority of its directors are practical lumbermen, acquainted not only with the business of logging and manufacturing lumber, but also with selling and marketing the same to the best advantage.

20. There is every reason to expect the most remunerative results from the judicious, legitimate working of this property, and from its care and preservation during the coming famine in timber in other directions.

21. Aside from present values and immediate realization, what properties have such an absolute value, as a legacy for those who are to come after us, as the magnificent forests now owned by the New Hampshire Land Company, and which have been secured at comparatively low prices?

22. Investment in well-selected timber lands surpasses all other investments in absolute worth and certain increase in value, in a positive demand for future products, and in a certainty that neither time nor custom nor fashion can change the public want for this material, so long as it can be supplied at any reasonable cost. Legislation cannot change its value; public opinion cannot efface its worth; competition in production cannot reduce its demand or increase the number of trees, except through intervals of seventy-five to one hundred and fifty years, devoted to the planting and growth of forest trees. Investments in manufactures are liable to great fluctuations in value from changes in tariffs, changes in fashion, changes in markets, changes in price of labor. Timber lands are subject to no such liabilities. Investments in railroad property are entirely at the mercy of the popular will, of adverse legislation, of the universal cry of monopoly, freight discriminations, exorbitant freight and passenger, tariffs. Timber lands are free from any such contingencies. Investments in corner lots in city property are dependent for a profit upon the popular whim in location, upon the rise or fall of certain interests, upon the economy or extravagance of city governments, and upon the amount of land thrown upon the market. The product of timber lands is a staple article in demand the world over, and not dependent upon single markets. Investments in stocks, in ships, even in farms, are of fluctuating and uncertain value, unless accompanied by careful and close individual attention; while the forest grows even when men sleep, and needs only the care of foresters to preserve intact its certain values. Glancing into the future with a cautious desire to secure the best and safest investment, and one that will eventually return the best dividends, nothing can be found to excel that of well-located timber lands.

23. It should be borne in mind that the timber lands embraced in the property of the New Hampshire Land Company have been purchased at prices far below their intrinsic value ; in fact, at rates much less, in some instances, than were demanded during the flush times, ten years ago. If such blocks of lands were in the market to-day, they would command greatly advanced rates. The stockholders in this Company may rest assured that it is impossible, within the boundaries of Vermont or New Hampshire, or within three to four hundred miles of Boston, to secure another tract of timber lands so great in extent, so valuable in its growth, and so accessible to large markets. The lands of the New Hampshire Land Company comprise a princely area of nearly a quarter of a million acres of magnificent forest growth, invaluable in its character and in its future possibilities.

24. There is no class of real property to which investors and capitalists have given so little attention as is the case with timber lands, and yet none so deserving their notice. The early purchasers in these investments will secure the prizes at low cost, compared with their market value a year hence. As soon as our moneyed men give this line of investments such scrutiny and investigation as they deserve, as soon as they convince themselves of the situation regarding the future timber supply of this section, New Hampshire Land Company's stock will quadruple in price, and its property will assume a value, in public estimation, far beyond the worth placed upon it by present owners. This property will bear the closest investigation, while no reasonable statement concerning its immense value can be gainsaid.

25. To that class of the community who are already convinced of the value of timber lands, and who are disposed to purchase certain areas for their prospective increase in value, an investment in the property of the New Hampshire Land Company appeals with force and reason. An interest, large or small, in the stock of a well-managed corporation, holding large tracts of selected forest lands, is likely to be more remunerative than the same amount invested in an individual

ownership of detached parcels of land. Such a landed corporation commands the best talent in the management; it secures better rates for transportation; it can afford greater outlays in development; it can offer superior inducements to operators; it can control markets, regulate prices, secure favorable legislation, examine and defend titles, retain counsel, plan improvements, employ experts and explorers, and purchase additional territory, all to better advantage than would result from limited individual holdings. Again, the facilities offered by a chartered company in the sale, purchase, and transfer of stock in open market is far more attractive and convenient than the buying and selling timber lands through deed and conveyance, legal delays and expense, examinations of titles, and drawing of necessary papers. Among the largest purchasers of the stock of this Company will be those who are most familiar with the present and future value of its timber lands, and who are satisfied that, through corporative holding, the most convenient and satisfactory mode of dealing in these securities may be reached. Again, the listing of this stock upon the Stock Exchange subjects its value and standing to the criticism and control of experts and proper authorities; while the daily quotations of the stock, and the opportunities for buying and selling at any time, add to the desirability of the investment in this form.

26. Notwithstanding the acknowledged worth of accessible and well-selected timber lands, and the expressed desire of many persons to invest in such properties, the New Hampshire Land Company is the first organization in this section of the country to offer, through sale of its shares at the Stock Exchange, an opportunity for the public to deal in this class of real-estate securities. The novelty of the investment, combined with its positive worth and certain advance in value from natural and obvious causes, must all serve to make this one of the most active and popular, as well as safest and most remunerative, stocks ever placed upon the market.

27. The present price and value of the property controlled by the New Hampshire Land Company are based

upon extremely low prices for lumber. Now that the price of lumber is advancing rapidly all over the continent, and in fact throughout the world, while this advance is likely to be permanent, it is certain that these New Hampshire lands will, in a few years, be worth quadruple their present price. No investment gives greater promise of remunerative and certain results. In almost every class of property,—railroads, mines, stocks, and bonds, land schemes, patent rights, and the like,—the “speculative boom” has caused such a rise in prices that the general public hesitate before adding to their investments in these special directions. But in that most valuable of all properties, timber lands, the property of the New Hampshire Land Company is the first of the kind ever offered upon the stock market in such shape that the public may share in its certain and rapid advance.

SUPERIOR ADVANTAGES OF OPERATING ON LINES OF RAILWAY.

In selecting this grand tract of timber lands belonging to the New Hampshire Land Company, special regard has been given to the superior advantages of operating on lines of railway over wood and timber operations confined to streams and rivers. Not many years since, nearly the whole cut of logs in the country was hauled to and landed on the banks of lakes and rivers during the winter season, awaiting spring thaws and freshets to float them or drive them to their destination. The disadvantages of thus operating on rivers is as follows: Unless exceptionally fortunate, it is often one or two years before logs cut and banked reach the various places of destination. There are the chances of floods and droughts, of high winds and broken booms, of scattered logs to be left in difficult and dangerous places. Logging operations upon rivers require large capital and outlay, besides incurring great uncertainties and liabilities to loss. Supplies must be purchased and forwarded late in the fall, previous to the winter's operation, at great expense for transportation, besides tying up of capital and loss of interest. No returns from these outlays can be secured until July and

August following the winter's cutting. Neither hard wood or cord wood can be floated or driven down stream. On many small streams, it becomes necessary to cut up the trees into short logs, thus reducing their value. Again, the actual scene of lumbering can only be visited during the winter, by many days of travel over unfrequented roads, with liability of blocking snows and tedious delays.

With timber lands situate upon railways, their value is at once quadrupled. Every hard-wood log, every stick of cord wood, every piece available for burning charcoal, becomes immediately available. Trees in whole length, suitable for masts, spars, piling, or other uses, can be forwarded to market. Interior points can be reached without extra expense. Small lots to order can be sold at advanced rates over cargo lots, and shipped by rail. Special orders may be cut and forwarded any day in the year. The proprietor may visit his property and his workings, at any time, with ease and comfort. No uncertainty or loss need be apprehended in getting the logs to the mill. Lumber, which always commands higher prices during winter and early spring, while river mills are closed, may be supplied by railroad mills. Logging operations may be increased or diminished during the winter, according to market demand. Lumber shipped by rail is cleaner, brighter, and more promptly delivered than that which is first rafted and then shipped by vessel. Small concerns with limited capital, can operate on lots of timber situate on railroads, because they can make a quick turn of the product. Supplies may be purchased and delivered in lots to suit any day in the year. Finally, the hard-wood lumber, cord wood, and wood for charcoal, which are practically valueless, if only accessible by water, become at once by far the most valuable products of the forest, when the lands are accessible by rail. Thus, if lands in Northern Maine are worth \$3.00 to \$5.00 per acre for logs alone, lands in Central New Hampshire are worth \$30.00 to \$50.00 alone for hard wood and cord wood, in addition to the value for logs.

CHARCOAL.

The New Hampshire Land Company have within the boundaries of their estate a larger amount of accessible forest growth, suitable for the manufacture of charcoal, combined with the best facilities for transporting so bulky an article to market, than can be claimed for any other tract of woodland in New England. Few persons, not in possession of the facts in the case, have any idea of the extent to which the use of charcoal can be pushed in this section, provided an ample supply could be contracted for, at a moderate cost. The retail trade of charcoal in the city of Boston is upwards of 1,000 bushels per day. A single iron manufacturer in this city has recently contracted for a supply of 500 bushels per day, while one prominent concern in Worcester consumes at their works 2,000 bushels of charcoal per day. In the supply of wood for this purpose, the New Hampshire Land Company can realize an enormous income, and one which cannot be availed of by any tract of land situate only on water communication. Though soft-wood logs can be floated down stream, it is impracticable to float cord wood or material for charcoal. The business of manufacturing charcoal can readily be reduced to a system of contracting for the delivery of wood to the kilns, and the subsequent burning and loading into cars at a given number of cents per bushel for the coal, while the railroads will make low rate per bushel for transportation. A ready market can be made for charcoal in large quantities, when manufacturers can depend upon a regular supply.

Kilns or ovens for reducing wood to charcoal are generally made of brick, and are of two kinds, the conical and the rectangular. Charcoal is sometimes produced in open air pits, covered with earth. Our average New Hampshire forests will produce from 1,500 to 2,000 bushels of charcoal per acre, in addition to the pine, spruce, and hard wood logs. It is estimated that after the first cutting, provided young trees are preserved, thrifty woodlands will yield a crop sufficient to produce 1,500 bushels to the acre every twenty to

twenty-five years. Hence every acre of well-wooded land has a large and positive money value, even after one crop is removed. Whatever may be realized from the forest products of an acre to-day, we may rest assured that in twenty-five years the same amount of wood or timber will fetch quadruple the present selling price.

The yield of charcoal varies, but is usually 35 to 45 per cent. of volume of the wood, and from 18 to 25 per cent. of the weight, — seldom over 25 per cent. by the ordinary methods, when the wood has been exposed two or three months in the open air, after cutting. Well-made charcoal retains the form and structure of the wood, is brittle, somewhat cracked, and very sonorous. If not burned enough, it is not black, nor is the fracture bright. One cord of wood yields about forty bushels of charcoal. Common kilns for burning 1,200 bushels at one time cost about \$400.00 each, were bricks can be obtained at reasonable prices. About one hundred and sixty bushels of charcoal are required to produce one ton of pig iron from the ore. A block of land measuring from 25,000 to 30,000 acres, if well cared for, will permanently supply wood sufficient to manufacture all the charcoal needed for a common-sized blast-furnace, say 3,000 to 4,000 tons per year.

HEMLOCK BARK.

A very considerable quantity of hemlock is scattered through these forests, yielding a double revenue, both from the bark and the logs for subsequent sawing. Hemlock is yearly growing scarcer in New England. This Company can contract the peeling of bark at \$1.50 per cord, hauling and loading on cars, with freight to tanneries, not to exceed \$4 per cord or \$5.50 per cord, delivered in Boston, showing a very handsome profit at present quotations. It is estimated that from four to six hemlock trees will yield a cord of bark. In Maine, the hemlock growth yields about three cords to the acre. In ten years from to-day, there will be no hemlock of any amount in Maine, or in fact in New England. Taking the general average of the hemlock forests of North-

ern New York, the yield of bark may be estimated at three and a half cords to the acre. Under the most favorable circumstances, it may come up to ten cords. The longest estimates fix the period of exhaustion, within reach of existing tanneries in Lewis County, New York, at fifteen years. The bark in the forests of the New Hampshire Lumber Company must of necessity prove of rapidly increasing value. Sales of bark have been made this year (1880) at \$12 per cord, delivered in Salem. Tanneries near Boston have paid the following prices at former periods: December, 1872, \$15 per cord; December, 1873, \$15; April, May, and June, 1874, \$15 to \$15.50; 1875, \$11 to \$12.50; 1876, \$11 to \$13; 1877, \$11 to \$14; 1878, \$9.50 to \$12; 1879, \$10 to \$11 per cord. The increased production of leather has rendered a larger consumption of bark and a consequent decrease in the supply inevitable. In Salem and Peabody, for instance, if 877,378 hides and 327,146 kips were tanned during the year 1879, against 536,590 hides and 231,006 kips in 1878, the additional amount of bark which was required was about 35,000 cords, or nearly 3,200 car-loads. An average of 85 cords of bark are consumed in tanning a thousand 20-lb. dry hides (or 50-lb. green salted) for upper leather purposes. For sole leather purposes, about double the amount, or 170 cords, are required per thousand hides. Exact statistics would probably show that the receipts of bark at Salem and Peabody and Woburn in 1879 exceeded those in 1878 by nearly that ratio. The amount received by the Eastern Railroad in Salem alone during 1879 was 1,477 car-loads against 1,071 car-loads in 1878. Probably 150,000 cords of bark per annum are required for tanning purposes in this section. There is no doubt the price of bark is destined to reach a very much higher point than ever before.

THE USE OF WOOD IN PAPER-MAKING.

The industry of reducing wood fibre to pulp suitable for paper is one that is consuming enormous quantities of spruce, poplar, fir, and pine timber. A very large percentage of the

paper used by the daily press is made from wood. It is more than eighty years since a paper-mill in Fairhaven, Vermont, made wrapping-paper from bass-wood bark, and about fifty years since a Frenchman at Frejus in France invented a mode of making paper from wood. Since that time, numerous inventions have been made in the two general methods now in use, the chemical and the mechanical.

By the chemical process, the wood is cut into chips, then boiled in a solution of caustic alkali in close iron vessels under high pressure of steam, and afterward taken out, washed, and bleached with chlorine. Sixty cords of wood will yield under this process twenty tons of pulp, thus requiring vast quantities of wood. The mechanical process most in use consists in grinding the wood to a pulp by pressing it against the edge of a broad grindstone. The wood is first cut into lengths equal to the width of the stones, the bark is shaved off, large pieces are quartered, and the pith and knots removed. These blocks are then placed in position, the fibre of the wood parallel with the axis of the grindstone, and firmly pressed against the stone by a screw worked automatically and descending as the wood is ground away. Four or five of these fixtures for holding the wood are attached to each stone, and water is supplied freely to facilitate the grinding and to wash away the pulp. This pulp is generally mixed with that from other fibrous substances, before being finally made into paper. This process came into use about twenty years ago. A large number of mills have been built in various parts of the country, and are now making daily about one hundred and twenty-five tons of dry pulp, using for this purpose about 250 cords of wood per day, or nearly 80,000 cords per annum. This industry is rapidly pushing into prominence in such parts of Russia and Germany as afford cheap material for grinding. Patents have recently been taken out in this country for using wood pulp made from any refuse, as sawdust, chips, twigs, or wood, in the construction, by pressing into boxes, barrels, and packages of all kinds. On every side, new uses for lumber are appearing, to add to the present alarming consumption.

Probably no block of timber lands in the world presents so many advantages for supplying the demand for wood in the manufacture of pulp as is the case with the possessions of the New Hampshire Land Company. Spruce, fir, poplar, and pine abound, transportation facilities are unexcelled, while water powers in the immediate vicinity of the forests afford all the power needed in grinding the material into pulp. This industry promises, in the near future, to afford the Company a large income.

PAST AND PRESENT PRICES OF LUMBER AND WOOD.

No industry in this country has suffered more severely, during the last seven years of depression, than the manufacture and sale of lumber. No staple article is likely to advance more rapidly in the near future than lumber, whether in the standing tree, the mill log, or the finished product. Values of land or lumber, predicated upon present sales, will seem astonishingly low twelve months hence. Competent authorities predict, within a year or two, a greater rise in the price of lumber, from the lowest point of depression, than has been witnessed in iron. It is not easy to estimate the increased value which such a rise would give to the quarter million acres of timber land owned by this Company. Because the price of lumber has ruled very low of late, it is difficult for the public to realize the great advance which is certain to mark future transactions. Investments in well-located timber lands must prove of a most profitable character. An advance of a single dollar per thousand feet in the price of stumpage (or standing trees) would add \$1,500,000 to the assets of the New Hampshire Land Company, when the lumber was cut. An advance of but twenty-five cents per cord in the stumpage, on cord wood, would increase the assets of the Company \$2,500,000, when the wood was removed. It is not improbable that a far greater advance may occur even within a few years.

A review of the markets for the past ten or twelve years, in this immediate connection, will prove suggestive. Quota-

tions of spruce and hemlock in Boston market show as follows: In 1868, 1869 and 1870, the winter and early spring price of random spruce cargoes was \$16 to \$19 per thousand; dimension orders per rail, \$18 to \$20; spruce boards, \$15 to \$18. Summer prices for cargoes of spruce ranged between \$15 and \$18; for all rail lots, \$17 to \$19. During 1871 and 1872, winter and early spring deliveries of spruce brought \$17 to \$19.50 for random lots, \$20 to \$23 for dimension lots, and \$18 to \$19.50 for boards. In summer, cargo lots sold at \$15.50 to \$17 per thousand. In early spring, hemlock boards were quoted at \$16 to \$17 per thousand, falling to \$14 to \$15 in summer. The great Boston fire caused an unusual demand for spruce dimension, large lots being sold as high as \$30 to \$34 per thousand feet.

A marked decline in the values of lumber occurred during the years 1873 and 1874, random lots of spruce opening at \$16 to \$16.50, and closing at \$15 to \$16. Hemlock boards also sold down from \$14 to \$15 to \$12 and \$12.25 per thousand feet. The year 1875 witnessed another decline, from \$14 to \$15, for random spruce in the spring, to \$12.50 to \$14.50 in the summer. Dimension lots brought \$16 to \$17. Hemlock boards declined from \$12 and \$13 to \$9 and \$11 per thousand feet. In 1876, lots of random spruce sold in the spring at \$13 to \$15; orders for dimension from railroad mills, \$16 to \$17. During the summer, great depression occurred, random cargoes selling at \$11 to \$13, rising again during the winter, by rail, to \$14.50 to \$15. Hemlock boards opened at \$11, and fell off in price to \$9.50 and \$10.50. A great depression in spruce lumber occurred during the years 1877 and 1878, when cargoes sold in the spring at \$11 to \$12, and all rail lots \$13 to \$14. Lowest point reached in spruce, \$9.50 to \$10.50, a decline of \$7 to \$9 per thousand feet in ten years, or a falling off of between forty and fifty per cent. In 1877 and 1878, hemlock boards sold between \$9 and \$10.50,—a heavy decline in ten years.

During 1879, cargoes of spruce sold as low as \$9.50 to \$10.50. Railroad lots in early spring brought \$13 to \$14. The price of random spruce commenced to rally in the fall,

closing at \$13 to \$14; while the quotation of railroad lots advanced \$15 to \$18. The season of 1880 opens with advancing prices, railroad lots of spruce selling at \$15 to \$18 per thousand feet. Should the demand prove large the coming season, prices, especially of ordered lots, will go considerably higher. No doubt, the day of cheap lumber has passed away, and consumers must make up their mind to accept the situation.

Concerning the price of hard wood, that from Nova Scotia governs our seaport markets. During 1879, such wood sold in Boston at the lowest rate known for eighteen years, and forty to fifty per cent. below the prevailing prices between 1870 and 1873. The average quotations of Nova Scotia hard wood per cord during the last fourteen years, in Boston markets, are as follows: 1867, \$8.50 to \$9; 1868, \$9 to \$10; 1869 and 1870, \$10 to \$11; 1871-73, \$9 to \$11; 1874-75, \$8 to \$9; 1876-77, \$7 to \$8; 1878, \$5.50 to \$6.50; 1879, \$5.50 to \$6.25. Such low quotations for wood may not occur again in many years. Yet, even at the lowest figures, the lands of the New Hampshire Land Company would yield the operator \$1.00 per cord stumpage; or, at a low estimate, upwards of \$40 per acre. Are not such lands a magnificent investment to those who desire to purchase the same at present low offering, each share of stock in this Company of a par value of \$25, representing two acres of woodland?

WHY TIMBER LANDS MUST ADVANCE IN VALUE.

The value of any staple article is of course regulated by the relative supply and demand. Timber lands at to-day's prices are the cheapest property in America. They have advanced but little above the ruling rates during the recent depression in all classes of property, while almost everything else has responded to the increased activity of the prominent industries of the country. The supply of timber lands, or rather the area in merchantable timber, is a fixed and definite quantity. This area of old-growth trees cannot be increased except by an interval of growth covering from seventy-five

to one hundred and twenty-five years. Meanwhile, the consumption of forest products is doubling up very rapidly. The immense increase in the population and general business of the country is causing a most unprecedented drain upon our forest resources. Within twenty-five years, at the longest, we may expect a great scarcity of lumber in this country; and consequent high prices. As vast areas of noble trees are felled for man's use, the remaining blocks of timber land must soon command a price scarcely dreamed of by present owners or by those who now have so favorable an opportunity for purchase.

Suppose, as an illustration, that it could be demonstrated that the coal fields of the United States would not supply present rate of consumption for more than twenty-five years: would not every available acre of the coal fields quadruple at once in price, and would not every succeeding year witness a heavy advance in value per acre? The condition of our timber lands presents a nearly parallel case, except that by systematic tree-planting we may supply the wants of our people in a limited way after fifty to one hundred years' interval. During this interval, or in fact as soon as public attention is once fully aroused to the impending timber famine, the price of fully grown forests will advance to fabulous rates. Now is the time to make safe and judicious investments in this most valuable class of properties. Associated holding of lands through well-regulated stock companies, with experienced officials to guard, protect, and improve the holdings, is far safer and more convenient than individual ownership.

Another important element in favor of an increased value for timber lands consists in the improved facilities for transportation by rail, and in the constant employment of the inventive genius of the age in devising methods of efficiency and economy tending to cheaper working of railways, greater capacity for carrying hence less cost of freight. Nothing is more certain than that extended systems of railroading will finally usurp the lumber traffic now largely shared by great rivers, thus removing the delays, the risks, the freshets,

and droughts incident to river-driving and marketing logs and lumber through the medium of river and ocean communication. Again, lumbermen are learning to use tramways and narrow-gauge railroads in lieu of hauling logs long distances by teams, thus lessening the cost of operating. With lumber at a given price in market, every saving in cutting and hauling logs or in transportation adds to the value of the tree standing, and inures to the benefit of the owner of timber lands.

CONSUMPTION OF LUMBER.

At the beginning of the present century, the annual consumption of lumber amounted to hardly more than 100 feet to the person. In 1870, the lumber consumed in the United States was 12,755,543,000, or over 300 feet to the person.

The *North-western Lumberman* of Chicago says the demand for lumber increases in the United States at the rate of twenty-five per cent. per annum. The forests decrease at the rate of 7,000,000 acres a year. The fences of the country are alone valued at \$1,800,000,000, and they cost each year \$198,000,000. The total consumption of lumber in this country to-day is probably not far from 20,000,000,000 feet annually. How long can a limited forest area stand such a drain? Does any one stop to think that it requires two hundred years to grow a timber pine-tree, or one hundred years to mature spar spruce?

In thirty years, the lumber trade of Chicago has increased more than thirty-fold, receipts in 1847 being only 32,118,225 feet. The consumption of lumber in the West during the season of 1879 exceeded that of any year in the history of the American continent. Chicago, which is the greatest lumber market in the world, received 1,200,000,000 feet in 1872. The receipts fell off to about 900,000,000 feet in 1873, gradually working up to 1,100,000,000 feet in 1878; while in 1879 they reached the unprecedented aggregate of 1,473,189,722 feet of lumber, with also 679,668,000 shingles. Last year Washington Territory exported 21,000,000 feet of lumber. Following is a statement of the total shipments,

for the last ten years, of lumber and shingles from the Saginaw River by water during each season of navigation :—

	LUMBER.	SHINGLES.
1870,	487,489,268	130,448,490
1871,	516,629,474	142,661,500
1872,	492,834,990	87,204,500
1873,	452,768,562	38,521,500
1874,	448,707,652	82,154,500
1875,	445,149,155	117,882,500
1876,	455,227,252	105,743,050
1877,	539,866,047	162,594,250
1878,	525,282,698	187,699,380
1879,	668,363,866	220,552,731

Can any careful observer fail to see the inevitable consequence of the enormously increasing trade of the great Western lumber markets? It must be admitted that the development of the material resources of the great West is far outstripping that of the East. The demand for lumber in the new States and Territories, almost treeless in their native condition, is unprecedented. Before many years, the West will say to the East: We can send you no more lumber. The pressing demands of the Far West are already beyond our capacity to supply. What will then be the effect on the value of blocks of land so heavily covered with original growth and so accessible as those owned by the New Hampshire Land Company? Timber lands in this section will quadruple in value within ten years! Humboldt says, "Civilization first destroys and then replants forests,"—a fact well illustrated in parts of Europe.

The present consumption of lumber in this country is almost beyond calculation. The quantity used in repairs of buildings, wharves, fences, and the like, far exceeds the quantity used in construction twenty-five years ago. At least 700,000,000 feet of soft-wood lumber is annually used in this country for manufacturing packing-boxes. The city of Baltimore alone consumes, in boxes and cases, over 50,000,000 feet of lumber per annum. To make shoe-pegs enough for American use and export consumes annually 100,000 cords of white birch, worth nearly \$1,000,000. Lasts, boot-

trees, spools, and bobbins take 600,000 cords of birch, beech, and maple; while the handles of tools require 500,000 more. The manufacture of bricks absorbs 2,000,000 cords of wood, or the product of nearly 50,000 acres of forest growth annually. Railway-ties consume heavy amounts of timber, so also do telegraph-poles, fences, and the like. The manufacture of charcoal iron takes from sixty to two hundred and fifty bushels of charcoal to every ton of iron produced. Much of the forest growth is consumed in wood for domestic uses, twenty-five cities being on record as annually consuming the product of 5,000 to 10,000 acres. Nearly \$144,000,000 is invested in the sawn lumber industry alone; that is, the production of lath, shingles, and boards. Add to this the fact stated by Professor Brewer,—that wood forms the fuel of two-thirds of the population, and the partial fuel of nine-tenths the remaining third,—and some general idea of the enormous drain constantly in progress upon our forests will be reached. This, however, is only the direct draft for purposes of utility. Immense areas of woodland are purposely burned as a speedy way of clearing, and thus the wooded regions are rendered more and more sparse.

A rapidly increasing demand upon our American forests is the foreign export trade. Among our customers abroad are Great Britain, South America; the Spanish, British, and French West Indies; Africa, Australia, France, Germany, Spain, Portugal, Italy, and Mexico. For shipment to Great Britain, in addition to quantities of spruce deals and other woods, a large trade is noted in sash-doors and other building material. The near future will probably witness a large increase in the foreign shipment of dressed lumber,—flooring, packing-boxes, and the like. The great laws of supply and demand govern the price and destination of lumber as well as that of other great staples. Much of the lumber upon the possessions of the New Hampshire Land Company is well adapted to the wants of foreign markets, provided domestic markets would not supply the necessary business. In 1877, five cargoes of Oregon timber, containing 2,200,000 superficial feet, were exported to Shanghai, China; and, in 1878,

fourteen cargoes. Canada enjoys a large export trade, as follows: 1869, \$19,838,963; 1870, \$20,940,434; 1871, \$22,352,211; 1872, \$23,685,382; 1873, \$28,586,816; 1874, \$26,817,715; 1875, \$24,781,780; 1876, \$20,337,469; 1877, \$23,665,787; 1878, \$20,054,829.

IMPORTANCE OF THE LUMBER INDUSTRY.

According to the last census, the five leading branches of industry in the United States were iron, lumber, cotton, machinery, and wool. The statistics of these industries were as follows:—

BUSINESS.	CAPITAL.	VALUE OF MATERIAL.	VALUE OF PRODUCT.	OPERATIVES.
Iron	\$198,356,106	\$199,208,218	\$322,168,698	187,547
Lumber	161,500,273	132,071,778	252,339,029	163,397
Cotton	140,706,291	111,736,936	177,489,739	135,369
Machinery	101,183,597	60,428,643	138,519,246	83,513
Woollens	98,824,591	96,432,605	155,405,358	80,053

It will thus be seen that the lumber interests of the nation stand only second in importance to the iron industry, and yet how little lumber-manufacturing or the ownership of timber lands has been assisted by corporative investment or associated effort, while the other great industries have been controlled and manipulated almost entirely by corporations! Coal is mined, cotton and woollen goods are produced, minerals are raised, oil is pumped, granite is quarried, land is owned by mammoth corporations, but the immense interests of lumber-manufacturing, and especially the ownership and control of the fast-disappearing areas of forest growth, are left to the management of small, and in many cases impecunious, individual owners. Few capitalists or persons who desire a real-estate investment are aware of the value and importance of the timber lands situated on railroad communication in New England.

The time has now fully arrived when cautious and conservative men, when those seeking for safe investments of money, may purchase blocks of timber lands with a certainty

of satisfying and remunerative results. No other form of investment, if carefully and judiciously made, will yield larger returns. It must be admitted on all hands that the rapid increase of business in this country and the consequent demand for real estate and improvements must make increasing demands upon the timber reserves of the United States. Here, then, we find the anomaly of an enlarged demand for an article that is constantly being diminished in supply. The candle may be said to burn at both ends, and hence be short-lived. Prices of lumber must inevitably advance to a point scarcely dreamed of by consumers of the present day. Fortunate, indeed, will be those owners of good, accessible timbered lands, purchased at present low rates.

THE WORLD'S SUPPLY OF TIMBER.

The supply of available timber is rapidly diminishing in all parts of the civilized world. It may be of interest to note a few facts in this connection. The land capable of bearing or actually bearing timber in Sweden has been estimated, by government inspectors, at 30,000,000 acres. Down to the present time, the Swedish government has continued to show the greatest solicitude for the preservation of both public and private forests; and minute regulations are in force, which, if carried out, cannot fail to make the Swedish forests a source of permanent income. They are not living on their capital there, as some countries have done, and are therefore able to take the utmost advantage of the exceptional advantages which nature has bestowed. In Nova Scotia, the approximate amount of timber-producing land was, in 1875, computed at 9,000,000 acres; in Ontario, 30,000 square miles; in Quebec, 115,174 square miles; in New Brunswick, less than 10,000 square miles. In British Columbia, about 180,000 square miles are covered with lumber. Newfoundland has a large area of forest land. In Natal, Africa, the crown forests have been seriously drawn upon. It is computed that Cape Colony has only between 500 and 600 square miles of forest. Between 1868 and 1878, British Honduras sent out 34,000,000 feet of mahogany. In

Victoria, Australia, timber is diminishing at a very rapid rate, while in Western Australia the government will take immediate steps to arrest destruction. In Queensland, an annual license-fee is exacted from wood-cutters. Tasmania, Van Diemen's Land, has about 8,000,000 acres under timber, of which about 1,000,000 acres are in private hands.

EXHAUSTION OF FORESTS.

Evidence accumulates on every side of the rapid diminution in area under forest growth; hence of the increasing value of that which remains. But a century ago, and nearly the whole face of New England was covered with forest growth; while now the New Hampshire Land Company control the largest block of timber lands in one location in New England, except in Northern and Eastern Maine, and the only block of any magnitude within two hundred miles of Boston. It is difficult to estimate the future value of this immense area of wooded land. The decrease in timber lands is not confined to any one section of the country.

J. C. Miller, an extensive Canadian lumberman and a member of the provincial parliament, writes, under date of December 2, 1879: "I think the greatest question in the future political economy of Canada, as well as of the United States, is the supply of pine timber. Those who have given the matter the greatest amount of consideration insist that the continent east of the Rocky Mountains does not contain sufficient white pine to supply the present rate of consumption for twenty-five years. It is perhaps not generally known that no white pine is to be found west of the Rocky Mountains or in Europe; and this fine, finishing wood, with which we are now so extravagant, will soon be a thing of the past."

The Quebec *Morning Chronicle*, in a recent issue, states: "The forests in the St. Lawrence district are fast becoming depleted, and in future producers and consumers will have to be content with what they can get. The reckless waste of raw material in the past must now be regretted, while words of warning, which have often been addressed to the trade will

now recur to the minds of many. What with the axes of the lumberman and of the settler, and increased railroad facilities, our great forest wealth is rapidly disappearing. The government should at once take up the question of replanting our forests for the future wants of our own and other countries."

The *Lumberman's Gazette*, Bay City, Michigan, says: "Not only is the quantity of timber rapidly decreasing among the pine forests of the North-west, but the quality of the standing timber remaining in the forests is rapidly deteriorating. The grade has been lowering for many years. Logs are being cut to-day that would have been passed by ten or twenty years ago. Twelve to fifteen years ago, the average stock cut by the mills at Saginaw, Michigan, yielded nearly double the percentage of upper grades that has been realized for the past three or four years."

The *London Iron*, in an able editorial, remarks: "Notwithstanding the increasing substitution of iron for timber in construction, the increasing use of coal, and the introduction of mineral oil for fuel, the forests of the world are being rapidly diminished, much of it from sheer wastefulness; and this is especially true in new countries. In the United States, twenty millions of people are living in perishable wooden dwellings, while immense quantities of the best timber are destroyed in the process of bringing the forest lands under cultivation."

Under date of March 29, 1880, the *Boston Herald* states: "The Canadian timber trade is growing very active under the stimulating influences of increased demand and a rapid rise in prices. During January, 1880, the shipments from New Brunswick were four times as great as in 1879. Poor lots of lumber and "cullings," which, up the country, in December would hardly fetch \$8 per thousand feet, in January sold readily at \$13, with a demand that exceeded the supply. The present season in Canada, it is estimated, will yield a total of 1,064,000,000 feet, an increase over the average recent production, but apparently not quite enough to meet the augmented demand. Some of the finest timber

lands in New Brunswick, Quebec, and Ontario are being rapidly exhausted by this wholesale cutting; but, for a short time, Canada has plenty of forest to keep the saw-mills busy."

Concerning our pine forests, the *Cabinet Maker* states: "The United States, east of the Alleghany Mountains, are nearly exhausted of white pine. At the present rate of cutting in Michigan, allowing no increase in the annual cuttings, the pine territory of that State, including the upper peninsula, will be exhausted in fifteen to eighteen years. This will occur in less time, if the cuttings are increased by larger operations. Four hundred thousand acres of fair average pine lands of Michigan are yearly required for the cutting, and eight million acres for the total cutting of the United States, allowing only five thousand feet to the acre. The question of the future timber supply may well be studied. Pine trees do not grow in a day; and, as a general rule, when they are cut down, other kinds spring up, while the attempt at profitable cultivation has yet to be made and determined in the future."

The *Cabinet Maker* of June 1, 1877, states: "We are threatened with a want of sufficient quantity of timber to meet the actual necessities of life. Twenty million people are living in dwellings chiefly constructed of wood, their barns and out-buildings are of wood, the fencing of their farms, more expensive than their other improvements, is of wood; and all these are perishable with time. Moreover, our 60,000 miles of railroad consume annually immense amounts of timber: 21,600 cords of wood are daily consumed in running railway trains 320,000 miles in twenty-four hours; 60,000 miles of road require 2,500 ties to the mile, and, as they must be replaced every five years, an annual consumption of 30,000,000 ties is required. We will soon construct each year 10,000 miles new road, requiring 25,000,000 more ties. In a single year, the new railroads in the treeless States required over 10,000,000 ties. When we add to all these sources of forest destruction, required in the fencing of these railroads, the 500,000 telegraph poles which each year will be required, we must be absolutely startled with the con-

viction that whole provinces of wood, which have required one hundred years to grow, are each year being swept away, while nothing is being done, by either public authority or private zeal, to supply the place of that which is destroyed. Should population and cultivation continue to increase in the same ratio, and the clearing of land be conducted in the same indiscriminate manner as hitherto practised, another hundred years may see the United States a treeless country."

As illustrative of the enormously increasing demand for lumber, it may be noted that New York State, though possessed originally of an immense area of fine timber lands, yet as long ago as 1850 reached the maximum of its ability to furnish lumber. That State produced about \$1,000,000 less in value of lumber in 1860 than in 1850. It is undeniably the fact that the time is not far distant, when, if the remaining forests are not preserved and new ones planted, the United States will be obliged to import large quantities of lumber. At first, this seems rather a startling statement; but its truth can easily be demonstrated by the facts contained within the covers of this pamphlet. Hence what an immense and positive value is given to such bodies of timber land as are owned by the New Hampshire Land Company! Such properties have an intrinsic value far beyond mere stocks and bonds.

WOODEN FENCES.

In no branch of rural economy is there so much needless waste of forest products as in fencing. A great reform must needs be instituted, as the expense of lumber grows greater year by year. A single square acre requires 50.6 rods of fence to enclose. It has been stated that from one-quarter to one-eighth of the present fences of the country would be amply sufficient to keep stock within proper limit. The amount thus saved in a year would aggregate millions of dollars in some of the larger States. Estimates have been made, showing the cost of fences in the United States to be \$1,700,000,000, and the annual cost for maintenance at \$198,000,000, including interest at 6 per cent. upon the

original cost. The farm fences in the State of Maine are estimated at 41,952,000 rods, or 131,000 miles in length. The first cost cannot be reckoned at less than \$42,000,000. Upwards of \$8,000,000 are invested in farm fences in the State of Connecticut. Total cost of fencing in New York State aggregates \$228,874,611; Pennsylvania, \$179,834,494; Ohio, \$155,580,673; Indiana, \$100,759,415; Illinois, \$128,856,513. These figures give some conception of the immense totals of lumber consumed for the single purpose of fencing. To those whose attention has not been called to the numerous important uses for lumber, a brief review of the subject-matter in this pamphlet will serve to show why lumber is growing scarcer and dearer.

INTERESTING FACTS CONCERNING LUMBER.

In some parts of Germany, no farmer is permitted to fell a tree without showing that he has planted another. It is an inviolate custom in some German districts that a man must produce a certificate showing he has set out a certain number of walnut-trees before he is permitted to marry.

The most barren sands along the sea-coast of France have been successfully sown with pines. European governments recognize the value and importance of present and future supplies of timber. Schools of forestry have grown up in almost every country in Europe. Lumber as wood has already advanced to extreme prices in the older countries. Fire-wood is sold by weight in Paris. White birch for spools is marketed at so much per pound in Scotland. In Central Europe, immense quantities of wood are consumed in small carvings and toys. In one year, a single German town exported of such articles 3,000 tons. A certain European gun-stock factory used, during the first two years of our civil war, 28,000 walnut-trees to supply gun-stocks for the American market.

The mines on the Comstock Lode in Nevada use from 40,000,000 to 50,000,000 feet of timber per annum, involving the clearing of 3,500 acres of forest land yearly, and a constantly increasing expense for logging, as the limit of

supply is being rapidly approached. The mines near Virginia City annually consume 40,000 cords of fire-wood, at an average price of \$16 per cord. Lumber for mining purposes sells readily there for \$20 to \$25 per thousand feet. The quantity of available timber on the Pacific slope has been much overestimated, and is, in fact, entirely inadequate for supplying the present domestic and foreign demands of that section, without taking into account the rapid increase of population and business. The forests of California are already too scanty and insufficient for her uses. Scarcity of lumber even checks remunerative agricultural operations.

The present generation seems to be more reckless in its use of lumber and less anxious concerning the future supply than those which have passed. In the improvement and preservation of our once magnificent forests, we are actually doing less than our forefathers did, more than two hundred years ago. This is certainly so in New Hampshire at present, as compared with the time when that State was a province under the Stuarts. As early as 1640, only two years after the settlement of that town, the inhabitants of that town regulated the cutting of oak timber by a general order. Twenty-eight years afterwards, the felling of all pine-trees fit for masts, within three miles of the meeting-house of this same town, was forbidden by statute. Some forty years later, 1708, an Act passed the Provincial Assembly to prevent the cutting of all mast trees on ungranted land, by a penalty of £100 sterling. New Hampshire had too, in those days, a Surveyor-General of forests; and woe be to a man daring to fell a pine upon which he had blazed the royal mark of the "broad arrow"! In later years, all wholesome restraint seems to have been removed; and a large proportion of the fine forests of New Hampshire has been cut down. The tract now controlled by the New Hampshire Land Company presents by far the largest and most valuable block now left in the State.

The marked increase in the lumber business of the country is indicated by the following figures: Value of the forest products in the whole United States in 1840, \$12,943,507.

Value of the lumber products sawed and planed in this country, in 1850, \$58,521,976; in 1860, \$95,912,286; in 1870, \$210,159,327. As showing the lumber business of a single State on the Pacific slope, we find San Francisco received, in 1875, 303,833,901 feet of lumber; in 1876, 309,159,972; in 1877, 288,521,540 feet; while, in 1874, California alone produced 442,018,387 feet of lumber; in 1875, 364,044,388; and in 1876, 492,263,130 feet. San Francisco has a large and increasing lumber trade with Australia, Chili, Calcutta, China, Sandwich Islands, Mexico, Peru, and other foreign ports. Is it any wonder that California is being rapidly denuded of her forests? Is it strange that the price of lumber is advancing rapidly all over this continent? Is there not good and sufficient reason for believing that timber lands will increase in value over their present comparatively low valuation?

Concerning woodlands, Horace Greeley many years ago wrote: "Even sterile, rocky woodlands, costing \$2 to \$50 per acre, according to location, are to-day the cheapest property to be bought in the United States. Money can be more profitably and safely invested in lands even covered with young timber than in anything else. The parent who would invest a few thousand for the benefit of his children or grandchildren, still young, may buy woodlands which will be worth twenty times their present cost within the next twenty years."

From the *Journal of Forestry*, June, 1878, a statement is published annually by the French government, of the amount of work which has been performed in the *reboisement* of the mountains of France, which in past times have been denuded of their natural forest. In the year 1875, the last for which returns have been made, nearly 2,000 acres were replanted by local enterprises: 1,000 acres in the Alps, 700 in the Cevennes, and the rest in the Pyrenees.

Since 1860, when the law for *reboisement* first came into force, 119,000 acres of land have been planted with trees or sown with grass, at a total cost of £206,805, of which half has been contributed by the State. This shows the solici-

tude with which France regards the question of forest growth.

The Saginaw (Mich.) *Herald* of September, 1879, says: "The increased demand for timber lands is a noticeable feature. Our pine lands are being rapidly exhausted, and are constantly being concentrated into fewer hands. The ultimate monopoly of the best lands by the largest and wealthiest operators is only a question of time, and a very short time at that. The sooner, the better for the trade and the country." Pine lands have recently been sold in Michigan at \$76 to \$112.50 per acre. The increased demand for timber lands displays itself not only in the West, but in the East; and those best versed in the subject are certain that no such promising field of investment is presented as that of the purchase of tracts of forest growth.

FORESTRY IN EUROPE.

In France, every acre of the national timber domain is under supervision of government authorities, who allow no timber to be cut, unless it has first been examined, passed, and marked as fit for the market. The timber used in France, in excess of home production, comes from the Scandinavian peninsula, Germany, Russia, Italy, and the United States. An eminent legal authority in France has laid down the principle "that the preservation of the forests is one of the first interests of society, and consequently one of the first duties of government." In Germany, the most rigid forest laws are observed; and, to save timber, fences are largely dispensed with. Italy and Russia are fully awake to the need of a like interest in the matter. In Sweden, 230 years ago, land-owners were required by law to plant two trees for each one cut down; while the government imposes a fine of from five to six hundred rix dollars on any one who, for commercial purposes, cuts down a tree of less than eleven inches in diameter at the large end. In France, foresters are educated by the government schools, as we do our men for the army. In Europe, Norway and Sweden, Russia and Germany, are the only countries which yield more forest

products than they consume; while the other European countries, notably Great Britain and the extreme Southern nations, are enormous consumers of imported wood. In our own country, amid an abundance of forests, we have hardly commenced to realize their value or to take any measures for growing a new supply.

FORESTRY IN SCOTLAND.

The plantations of larch by the Duke of Athol have been often mentioned, and were begun in 1728. Between 1740 and 1750, James, then bearing this title, planted over 1,200 larch-trees as an experiment, the tree being then new in Scotland. In 1759, he planted 700 more, mixed with other kinds, on a hillside very poor and stony, and with good result. His successor, John, first conceived the idea of planting the larch to the exclusion of other kinds, and covered 400 acres of sterile hillsides with this timber. He died in 1774; and his son, Duke John, continuing the practice, had, in 1783, planted 279,000 trees. Between 1786 and 1791, he planted 680 acres with 500,000 larches. He continued the practice till 1826, when he and his predecessors had planted more than 14,000,000, covering more than 10,000 acres. It was estimated that the larch in seventy-two years gained its fullest value; and, before reaching this age, the trees should be thinned to 400 on an acre. Estimating the trees at 50 cubic feet, worth a shilling a foot, the product would be \$1,000 per acre on the poorest land for agricultural purposes in the country. Larch-trees planted by the Duke of Athol in 1743 were, in 1795, 9 feet 3 inches around, at 4 feet from the ground and 100 feet high. In 1869, these trees measured more than 16 feet in circumference, and were 120 feet high. Had it been possible for the Duke of Athol to purchase in Scotland such timber lands as are now owned by the New Hampshire Land Company, he never would have planted his larches. As it is, owing to a serious disease among these larches and the substitution of iron for wood in ship-building, these forests are now reduced in value to \$1,000 per acre.

LUMBER TRADE OF BOSTON.

The statistics of the lumber trade in Boston furnish a fair index of the comparative amounts consumed in the Eastern States during a term of years. By the table on the following page, it will be seen that in the year 1871 the largest amount ever recorded was surveyed in Boston; while the amount in 1879 was the lowest during a period of twenty years. It will be noticed that spruce lumber leads all other varieties in quantity. The surveys of lumber in Boston show but a part of the receipts, since immense quantities are received by railroad. Thus, during the year 1879, there were received over the Boston & Lowell Railroad 4,285 car-loads of lumber; over the Boston & Albany, 2,203 car-loads; Eastern Railroad, 1,708; Fitchburg, 1,698; New York & New England, 239; and per steamer, 33 car-loads,—making a total of 11,205 car-loads. With an average of 12,000 to the car, this would represent an aggregate of upwards of 134,000,000 feet.

Of all the lumber that arrives by cars, not one in fifty is surveyed. Nearly all the soft woods received from the West are sold at Western surveys. Probably 20 per cent. of all the lumber now consumed in New England is brought from the West, and at least 15 per cent. more is imported from Canada. When these sources of supply are shut off, it is easy to see that the increased demand upon our New England forests will soon double or even quadruple the value of such blocks of forest land as are owned by the New Hampshire Land Company. The increased demand for stores, buildings, manufacturing establishments, and other improvements, consequent upon the present activity of business, must soon create an additional demand, which will require immense quantities of lumber to supply, so that, within a year or two, the receipts of lumber at Boston will soon rival the prosperous times of 1871 to 1873.

LUMBER SURVEYED IN BOSTON DURING TWENTY YEARS,—1860—1870 INCLUSIVE.

	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Pine,	13,619,137	12,493,538	15,660,430	14,433,418	15,723,011	25,235,286	31,430,363	38,816,536	42,913,518	44,514,054
Spruce,	27,309,829	27,831,988	31,223,955	33,825,714	44,273,117	63,305,189	79,370,500	87,997,344	97,075,304	76,973,537
Hemlock,	5,795,190	6,253,864	6,676,444	6,677,523	8,191,568	15,220,862	15,597,458	14,092,096	16,175,501	11,612,578
Pine dimen.,	278,712	454,236	754,942	466,171	471,533	1,213,741	1,603,906	1,492,203	1,695,467	765,041
Whitewood,	1,329,745	1,803,950	2,268,022	1,417,060	1,704,529	2,059,026	2,139,924	2,154,871	2,512,680	1,314,112
Southern Pine,	8,965,882	10,483,279	11,261,832	7,796,483	8,554,884	18,514,676	34,108,142	15,650,832	9,095,106	8,679,970
Oak,	183,756	324,432	1,109,448	319,613	807,048	2,185,702	1,048,176	511,332	578,232	1,229,248
Hewn Timber,	315,104	84,000	84,360	23,188	114,396	453,344	140,704	320,552	346,664	300,528
So. Pine Flooring,	2,989,938	5,223,746	4,178,711	2,888,570	5,984,196	10,033,193	10,635,257	8,268,655	5,810,092	6,503,108
Oak, Ash, Walnut, & othr hardw' ds,	10,326,155	9,056,832	10,321,776	6,596,321	11,937,747	16,591,594	15,744,165	14,949,481	18,494,432	14,646,750
Total,	71,113,448	74,009,865	83,539,920	74,444,080	97,761,969	154,812,613	191,818,595	184,163,902	194,696,946	166,538,926

	1869.	1868.	1867.	1866.	1865.	1864.	1863.	1862.	1861.	1860.
Pine,	55,848,000	59,028,956	51,777,104	41,087,497	44,745,401	46,350,275	44,993,106	38,288,403	42,998,506	41,673,804
Spruce,	74,334,524	74,926,884	54,478,706	54,488,908	38,954,837	42,764,869	42,356,670	32,571,010	33,411,688	36,624,120
Hemlock,	10,877,885	9,973,053	6,786,448	6,668,225	4,105,577	7,292,633	4,776,944	4,875,914	5,614,684	6,839,106
Pine dimen.,	1,943,972	2,528,531	2,114,427	2,841,190	1,923,302	3,407,134	2,964,445	2,113,948	2,590,699	1,743,588
Whitewood,	410,869	369,236	734,691	541,015	267,696	520,810	36,866	467,611	110,295	139,278
Southern Pine,	14,839,095	12,569,221	9,082,184	4,719,163	217,545	61,863	25,764	559,573	7,059,787	6,243,017
Oak,	2,411,872	2,139,024	1,512,780	1,403,992	3,437,556	4,672,680	5,208,228	6,613,824	3,808,384	2,067,456
Hewn Timber,	178,844	194,532	396,272	366,048	553,656	1,249,512	22,140	686,604	707,256	957,432
So. Pine Flooring,	4,955,704	3,787,314	4,732,937	1,514,577	73,006	74,836	8,666,262	396,900	2,214,355	2,529,684
Oak, Ash, Walnut, & othr hardw' ds,	13,859,961	10,452,071	13,785,721	9,754,711	7,735,840	10,916,475	5,091,745	5,091,745	4,156,236	5,133,209
Total,	178,466,828	175,968,822	145,401,270	123,415,926	102,015,116	117,311,087	109,050,425	91,665,612	102,671,890	103,950,694

PRODUCTION OF LUMBER AT BANGOR, ME.

The Penobscot River and its branches have furnished more lumber in years past than any other river in New England. To illustrate the enormous trade in lumber on these waters, a table is appended, showing the surveys of lumber at Bangor, Me., from 1856 to 1879 inclusive. The variations in the trade on the Penobscot are a fair example of the rise and fall of the lumber industry in other New England points. The whole amount of lumber surveyed in the city of Bangor, Me., since the establishment of the Surveyor-General's office in 1832, foots up 7,054,547,563 feet, the average for forty-seven years being 150,096,756 feet. In 1876, but 115,121,191 feet were surveyed; in 1877, 117,867,745 feet; and, in 1878, 122,140,828 feet, upwards of seventy per cent. of which was spruce lumber. As showing the great falling off in this industry on Penobscot waters, it is only necessary to refer to the production at Bangor in 1866, when the total of logs cut showed upwards of 237,000,000 feet. It is possible that the renewed activity in general business will have its effect upon the Bangor lumber industries, though it is not probable that the yearly production will ever reach the figures shown in 1866, as logging operations are conducted under greater difficulties, with longer hauls, smaller timber, and increased expenses. The demand for lumber throughout the markets heretofore supplied from Bangor will be far greater in the future than in the past, while the supply from this point must gradually diminish. The enormous totals, as represented by the figures given below, will need to be sought for in other forests at higher prices. The forests under control of the New Hampshire Land Company will be called upon to contribute their quota to the world's supply, at most remunerative rates. The following table shows the severe depression experienced in the lumber trade during the past few years, besides indicating the necessities of years when building activity prevails, and the increased demand which may naturally be expected in the near future. The decline in prices of spruce lumber, at this point, shows

the severity of the late depression. A prominent Bangor manufacturer gives the following prices of spruce lumber, from his actual sales: In 1872, \$13.80 per thousand feet; in 1873, \$13.90; 1874, \$12.60; 1875, \$11.60; 1877, \$9.90; and in 1878, \$9.10 per thousand feet. Those of 1879 were fully as low as 1878. Much higher prices will prevail during the coming season of 1880, as contracts have already been made, at a marked advance over those of 1879. At every lumber-producing point, an advance in prices is demanded and received.

LUMBER SURVEYED ON PENOBSCOT RIVER,
1856 TO 1879 INCLUSIVE.

YEAR	GREEN PINE.	DRY PINE.	SPRUCE.	HEMLOCK, ETC.	TOTAL.
1856	85,111,378	17,000,089	66,536,983	11,323,386	180,262,230
1857	60,875,020	14,941,023	56,025,284	12,557,680	145,109,000
1858	56,230,129	13,223,715	62,045,696	16,166,907	147,666,447
1859	73,054,637	10,424,752	77,432,074	15,275,553	176,187,016
1860	87,386,610	10,314,565	88,027,510	14,662,811	200,994,526
1861	29,402,742	8,616,185	72,626,900	9,804,824	130,529,651
1862	49,288,178	11,732,569	90,135,783	7,421,392	158,577,922
1863	49,788,162	12,806,074	108,904,447	16,622,364	188,122,047
1864	43,289,179	11,557,327	106,774,936	12,814,830	174,436,272
1865	35,137,683	13,158,539	107,505,867	14,078,934	169,884,923
1866	50,903,269	12,672,142	154,571,243	19,000,952	237,147,606
1867	40,429,849	10,777,325	139,445,478	15,830,706	206,483,358
1868	41,202,167	9,107,232	152,934,455	17,558,912	220,794,766
1869	30,796,811	10,184,100	133,756,759	16,103,240	190,840,908
1870	22,999,000	7,031,000	149,103,192	22,881,000	202,014,192
1871	35,613,000	6,770,000	163,121,675	21,987,000	229,491,675
1872	37,570,000	8,580,000	176,933,649	23,370,000	246,453,949
1873	25,553,985	7,032,863	129,277,908	17,337,597	179,202,353
1874	18,509,448	5,668,861	135,226,015	17,382,608	176,786,932
1875	17,049,884	5,285,965	116,664,487	15,662,793	154,663,129
1876	15,001,624	4,613,948	82,087,987	13,417,632	115,121,191
1877	10,655,443	4,048,709	85,480,149	17,683,444	117,867,745
1878	14,255,319	5,224,678	81,358,056	21,302,775	122,140,828
1879	9,637,021	8,322,394	91,907,627	12,695,220	122,562,262

DESTRUCTION OF FORESTS.

As an additional proof that the destruction of our forests is being consummated with alarming rapidity; and as convincing evidence that old growth timber lands, like those now in the possession of the New Hampshire Land Company, have a large intrinsic value at the present time, in addition to a future value almost beyond computation,—an abstract is appended of a report on “Tree-Planting,” by Professor C. S. Sargent of Harvard University, delivered in 1876, before the Massachusetts State Board of Agriculture. In this report, tree-planting is urged as a remunerative branch of farm economy, in view of the early destruction of accessible forests. If, in the opinion of competent judges, it will pay to plant trees and wait fifty to one hundred years for a merchantable crop, how much better the investment, in a pecuniary point of view, of a few dollars per acre in lands of the New Hampshire Land Company, which are already covered with magnificent forests, the trees in which range from fifty to two hundred and fifty years old! Professor Sargent is an acknowledged authority in matters connected with forestry, and his views are entitled to the most careful consideration. He commences by saying:—

Every year the destruction of the American forests threatens us with new dangers. Every year renders it more imperative to provide some measures to check the evils which our predecessors, in their ignorance, have left us as a legacy.

The most valuable trees have always been cut, often before they reached maturity; and, as no steps have been taken to replace them, it is not astonishing that the poverty of our woodlands has reached a point which compels the inhabitants of Massachusetts to draw nearly their whole supply of lumber from portions of the country more recently settled.

Enormously as the price of all forest products has advanced during the last twenty-five years, their future increase in value must be more rapid as the supply becomes more and more inadequate to the demand. The great timber districts of the northern hemisphere have now all been called on to supply the always increasing wants of the civilized world; while no provision has as yet been

made, except in limited areas or on an entirely insufficient scale, to provide artificially the wood on which our descendants must depend.

In Europe, Norway and Sweden, Russia, and possibly Belgium, are the only countries which yield more forest products than they consume. In the United States, according to the estimate of George P. Marsh, Oregon is the only State in which there is an excess of forest. New York and Maine, which were formerly the chief lumber-producing States of the East, now do not cut enough for the use of their own inhabitants, and depend upon Canada and the West for a large portion of their supply.

In spite of the substitution, in many parts of the country, of coal as fuel, both for domestic purposes and for the generation of steam; in spite of the increasing employment of other material, both in the construction of buildings and various implements and for ship-building, the demand for wood in the United States has stimulated the supply, until the figures which mark its increase seem almost incredible.

The railroads are enormous consumers, both in fuel, in the construction of cars and buildings and for sleepers. As long ago as 1869, government reports estimate that the annual expenditure of the railroads at that time, for wood for buildings, repairs, and cars, was \$38,000,000, and that the locomotives of the United States consumed \$56,000,000 worth of fuel annually, or a yearly consumption of fuel representing twenty-five years' growth on 350,000 acres. As railroads have since vastly multiplied, both in number and length, the consumption of forest products must have increased proportionally.

Supposing the life of a railroad sleeper to be seven years, the 85,000 miles of track consume annually 34,000,000 sleepers, or thirty years' growth on 68,000 acres of the best natural woodlands. If the sleepers are raised artificially, some 700,000 acres would be required, planted with trees best adapted for the purpose, regularly cropped and scientifically managed, to supply the railroads already constructed. At least, 125,000 miles of fencing are required to enclose the railroads of the country, which could not have cost, on an average, less than \$700 per mile. One-half of this would barely represent the cost of the wood employed, or \$43,000,000; while it must take annually lumber to the value of not less than \$40,000,000 to keep these fences in repair.

In 1872, there were in operation in this country 65,000 miles of

telegraph (now largely increased), which destroyed in their construction 2,600,000 trees for poles; while the annual repairs must call for some 250,000 more. The 20,000,000,000 matches manufactured in the United States annually require 230,000 cubic feet of the best pine lumber. At least, 1,450,000 cords of wood were required in the burning 2,899,382,000 bricks. The enormous consumption of wood in every department only hastens the day when positive scarcity will demand increased attention to forestry.

In 1860, the value of logs sawed into lumber in this country was \$43,000,000; in 1870, it was \$103,000,000, showing that the uses to which forest products are applied are being rapidly extended, and that the foreign demands on American forests are increasing. But the statistics of the lumber trade alone do not show the entire destruction which is going on in our forests. Frederic Starr, Jr. in an interesting paper on the American forests, estimated that, during the ten years between 1850 and 1860, 30,000,000 acres of forest-covered land were cleared in the United States for agricultural purposes, or 10,000 a day for each working day during that time. Of the trees thus cut, probably the largest portion never found their way to market, but were destroyed by fire, for the sake of getting them off the land as rapidly as possible. Although it would seem that lumber is now too valuable to justify any such mode of clearing, yet it is not improbable that trees capable of producing millions of feet are annually sacrificed in this manner.

The railroads, the most dependent of all our corporations on a supply of wood for their daily consumption and increased traffic, must soon, in self-defence, turn their attention to arboriculture. To-day I can offer farmers and farm-land owners no better advice than that of the dying old Scotchman to his son: "Ye may be aye stickin' in a tree, Jock: it will be growin' when ye're sleepin'."

THE TIMBER SUPPLY QUESTION.

The value of every acre of forest belonging to the New Hampshire Land Company depends upon the relative abundance or scarcity of the timber supply in other sections. This question is one of continental importance, and should command the attention of statesmen and political economists as well as of producers and consumers of lumber. Few people are aware of the rapid destruction of American forests, the limited supply of desirable growth, and the immense value of

any remaining parcels. The owners of this vast block of New Hampshire timber lands will be interested in the following abstract of a pamphlet recently published by Mr. James Little, a prominent lumber merchant of Montreal, Canada. Mr. Little has investigated the lumber-producing regions of the United States as well as those of Canada, has had fifty years experience in the lumber business, and sets forth the result of his investigation with clearness and candor. Mr. Little states in reference to the indifference shown by the Canadian government and people concerning the future timber supply: "*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.*" Referring to the lumber interests of the United States, Mr. Little continues:—

I find of the twenty-six States comprising the New England, the Middle, the Western, and North-western to the Rocky Mountains, only four—namely, Maine, Michigan, Wisconsin, and Minnesota—are now able to furnish supplies beyond their own requirements; and I will now point out the condition these States are reduced to touching their supply of building timber, and how long they may be expected to stand the drain on their forests at the rate of consumption going on of this indispensable material. The State of Maine, which not long since could boast of most extensive pine forests, is now all but stripped of that valuable wood, and is besides so far denuded of its once-supposed inexhaustible supply of spruce that the lumberers are forced to the head-waters and tributaries of every river in the State to hunt for supplies, and are stocking their mills in a large measure with logs cut from sapling poles of from six to eight inches in diameter; and this reckless and wasteful slaughtering is carried on to such an extent, to supply the neighboring States and for shipment abroad, that a few years will find the people of that State without building timber, either pine or spruce, for their home consumption.

The northern sections of Michigan, Wisconsin, and Minnesota are the only localities of the whole twenty-six States that are able to furnish supplies of white pine beyond the wants of their own

respective States ; and the demand on them is so heavy for all sections of the country that it will not be possible for them to respond to it for more than six or seven years longer. Their main streams are all stripped, and the lumberers are now operating at the head-waters of their tributaries, where they are forced to bank many of their logs in dry gulleys, depending on the winter's snow and spring rains to produce freshets sufficient to float them to the main streams, which often fail, as will be the case with many of them this season, for want of water to move them from where the loggers have hauled them.

A number of railways have also been built to secure the lumber traffic of these timber sections. No less than six are now running through every patch of timber otherwise inaccessible to the loggers on the lower peninsula of Michigan, hitherto the greatest lumber-supplying State of the Union ; and the mill-owners themselves, having many of them exhausted their timber within team-hauling distance, are busily at work building railways on their own account, to enable them to reach what are now the outskirts of their once-supposed inexhaustible timber resources. And here in these three timber sections, and in the positions I have pointed out, is to be found the whole white-pine supply for the consumption of your whole country east of the Pacific slope ; and, were the whole of that supply brought to one point, it could all be covered with the palm of one's hand on any ordinary map of the United States. And yet, notwithstanding this state of the case, the lumberers keep slaughtering away, as if life depended on how soon they could rob the country of its timber wealth, and bring about a timber famine, to the utter ruin of the wood industries of the country, in which every member of the community is deeply interested.

We have theories and speculations on the forests as influencing the rain-fall, and their value as reservoirs to keep up a supply of water for your rivers, watercourses, and canals, and afford power for machinery ; but who has given consideration to the consequences to your whole country of a dearth of timber ? Who of your statesmen has given his mind to think of its effects on the 173,450 industrial establishments, and the 1,093,202 operatives, who, as shown by your census returns, as far back as 1870, are engaged therein, providing your people with the finished wood materials so indispensable to their well-being ? Who has taken into account the consequences of a failure in the timber supply on the settlement of your boundless, treeless prairie country, or the deprivations it will entail on its

inhabitants, and the millions who are to make it their home? Who of your whole people has given himself the trouble to understand that it would require you to raise \$500,000,000 to send abroad to purchase an amount of lumber equal to your present consumption for a single year, or that all the tonnage of the whole world would fall far short of being able to freight it from your Pacific Territories to your Atlantic seaboard? The aggregated freighting capacity of the world is only about 18,000,000 of tons, while the 12,755,000,000 feet of lumber, shown by your census returns of 1870 to have been sawn in 1869, would make a tonnage of 21,000,000. From which it will be seen that, without taking into account the thousands of millions of shingles and the millions of feet of timber of all kinds consumed at the same time, there is not tonnage enough in existence to freight that single item of sawn lumber alone around Cape Horn. And how inadequate it would be to meet the shipping requirements for the whole consumption of all kinds of building timber and wood for other industrial purposes of the present day! and how much more so by the time your present stock is exhausted, with so many more millions of consumers to be supplied!

From the utter indifference and neglect with which this momentous question of the supply and consumption of timber is treated by your people, it might be supposed you could dispense altogether with its use, or that you could reproduce it as easily as raising a crop of corn, or that you would have no difficulty in finding a substitute; but it takes a century to grow a standard pine-saw-log. And, if there is a country on earth in a position to do without or find a substitute for timber, that country is Great Britain; and yet she increased her wood consumption at an average rate of ten per cent. a year for the last ten years; and last year, as shown by her trade returns, it was thirty-one per cent. more than in 1875. And the import of that island, not half the area of your State of Texas, and being, as it were, thoroughly finished up throughout its whole extent, showing no further room for improvements, amounted to no less than \$100,000,000. But, large as that sum is, it is comparatively small to what the United States will soon yearly be called on to supply for its own wood consumption; and it is not a luxury, that can be thrown aside at will: it is indispensable to the national well-being.

I know that the impression prevails, and it is often stated by interested parties, that it matters little what is the condition of your supplies, as you have but to look to Canada, where can be found

“enough for the most exacting populations of the world for centuries,” which is the statement usually made by those utterly ignorant of its true condition, or those who do so for a purpose. And I will here assert, from a personal knowledge of most of the timber sections of Canada, and trustworthy reports from others, that we have not, from the far-off Province of Manitoba to the Gulf of St. Lawrence, as much pine, spruce, hemlock, oak, ash, elm, white-wood, and other commercial woods, as would supply the whole consumption of the United States for a period of three years ; and the whole accessible pine localities have, besides, been run over to such an extent for such pine and board-wood timber as would pay to ship, that many of our lumberers have been forced to seek for these descriptions of wood goods, to supply the English demand, in your North-western timber territories, where they may now be found cutting down, on an average, three trees to get one stick of timber, and leaving the others, from some trifling defect, to rot in the woods,—a waste of this valuable material that you can ill afford.

As showing the enormous amount of lumber, mostly spruce, stripped from the forests of Maine during a year of active lumbering operations, I subjoin the following products of the mills of this one State in the single year of 1873. These figures were furnished me by Mr. Ira Sturgis, an acknowledged authority in Maine: At Calais, the total cut was 100,000,000 feet ; Machias, 75,000,000 ; Cherryfield, 40,000,000 ; Ellsworth, 60,000,000 ; Penobscot, 250,000,000 ; Kennebec, 155,000,000 ; Androscoggin, 75,000,000 ; mills shipping to Portland, 50,000,000 ; other scattering mills and timber for home consumption, 225,000,000,—making a total of 1,000,000,000 feet. The census returns of 1870 for this State give the sawed lumber alone at 639,167,000 feet.

The other Eastern States, comprising New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island, with the Middle States of New York, New Jersey, Delaware, Pennsylvania, and Ohio, were at one time dense forests ; while within a few years most of those lying east of Ohio held large tracts of the finest pine timber. To-day, these States, Pennsylvania excepted, are practically denuded of that wood ; and indeed, with the exception of some spruce in the Adirondacks, New York, that in Coos, Carroll, and Grafton Counties, New Hampshire, and in Essex County, Vermont, have little spruce timber left. The State of Pennsylvania in 1870 manufactured 1,610,000,000 feet, at which rate her

timber resources will soon be exhausted. West and North-west, up to the Rocky Mountains, we have Texas, New Mexico, Arizona, Colorado, Kansas, Nebraska, Dakota, Eastern Montana, Illinois, Iowa, the west half of Missouri, that part of Minnesota west of the Mississippi, and the southern part of Wisconsin, all chiefly prairie, and an almost treeless territory.

The whole Western country, together with Ohio and Indiana, is mainly dependent on the small amount of white pine yet remaining in the States of Michigan, Northern Wisconsin, and North-eastern Minnesota. Since Michigan is sawing 3,000,000,000 feet per annum, her forests cannot stand such a drain for many years longer; and the same may be said of Wisconsin and Minnesota. On the Pacific side, there are Washington and Oregon which have timber to spare, and which they are now distributing to the South along the whole western coast of North and South America. The States of California and Nevada have only about one-fifth timber enough for their wants, besides attempting to supply Idaho, Utah, and Arizona, which are comparatively treeless. But the Pacific slope, whether in the United States or in Canada, no matter what extent of timber territory it contains, will never send a quantity of it so far East, as long as any is to be found in the north of Europe, from which it can be freighted at one-third the cost. It may be here remarked, to show the absurdity of the claims of those who point to the Pacific as one of the future sources of supply, that the cost of ordinary lumber in San Francisco is about as high to-day as the far better grades now command in the Albany market. The pitch pine of the South is unsuited for most purposes where spruce and white pine are commonly used.

I would now offer a few remarks regarding our Canadian supply of spruce timber, 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 spruce 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. Eastern Townships' supply has been removed, 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. There is not much now left convenient to the floating streams, 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, as is also the whole region below Quebec, hardly a stream of which but has extensive mills on it. From all appearances, spruce timber will be as short-lived in Canada as the white pine.

Nova Scotia is making rapid progress in ridding her soil of its wood incumbrance. New Brunswick, that manufactures more spruce deals than are shipped at Quebec, including both pine and spruce, appears determined to get rid of her timber at any sacrifice. The public, however, are fast waking up to the fact that one-half of the best timber lands have 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, doing incalculable injury to that Province, in entailing on its inhabitants one of the direst calamities that could befall them, — a want of timber.

In five years, neither pine timber, nor pine or spruce deals, except perhaps some of the best clear pine, will be shipped from the port of Quebec.

In five years, lumber will be higher on this side the Atlantic, with the above exception, than it is now or will be then in Great Britain, inasmuch as the latter country will be nearer the sources of supplies in Northern Europe.

In five years, I look for lumber to be shipped from the Ottawa in Canada to supply the prairie States of the West; and, in a dozen of years from now, the commercial woods of the United States and Canada, this side of the Pacific slope, will have totally vanished. And, instead of our running abroad to find markets on which to force and sacrifice the products of our forests, we shall be running abroad to see where we can purchase supplies for our home consumption; while the shipping, which is now engaged in carrying away our timber and lumber, will be required to freight supplies to us from other lumber points, wherever they may be found.

In years of average prosperity, Canada receives about \$25,000,000 per annum from her forests, which is largely in excess of the amount received for cereals. If the foreign shipments, in addition to the home consumption, continue on such a scale in the future as has been the case in the past, it will be less than one generation before we shall be required to send \$50,000,000 out of the country for supplies of lumber. I will not venture to express an opinion of the effects of a timber famine upon our industries, but will merely remark that it would be well for every business man to be prepared to "stand from under."

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