

us—the lamented Capt. E. P. Door—had a friend to his scheme, who gave him encouragement and counsel. In 1863 he purchased the tug Reindeer, and thus commenced a system of transportation which has grown to mammoth proportions, not only in lumber, but grain and other products, and not only upon our lakes, but it has extended to the shores and bays of both oceans.

In the place of one spar and one tail to keep them before the wind, they are now built with two and even three masts, enabling them better to care for themselves in case of compelled desertion by the propeller. In 1870 there were 128 barges on our lakes of a capacity of over 40,000 tons custom house measurement, and representing a capital of over \$1,000,000. So that the old Sultana and Empiro, whose arrivals and departures to and from Buffalo thirty-five years ago created an excitement unparalleled in the history of passenger traffic, were destined to become in their old age the pioneers of a system of transportation that to-day feeds one half of the men who go on the lakes for a livelihood.—*Day City Call.*

FARMING FORESTERS.

The Chicago *Northwestern Lumberman* says: At the national agricultural convention which has been in session at the Grand Pacific Hotel, this city, for several days, recently, the subject of forestry was brought under discussion. Ex-governor Furness, of Nebraska, read a paper entitled "Tree Planting and Growing on the Plains." He characterized it as not a treatise on forestry, but an account of what had been done to convert naturally treeless plains into groves of valuable timber. He asserted that, through the stimulus of rigid legislation, Nebraska had taken on an acquired dignity as a timber-producing state. No longer ago than 1854 tree planting was begun there, spontaneous growths of timber being noticed along the water courses. Seedlings were found to thrive well on upland prairies, and gradually trees were added other than the native ones. Since the policy of tree planting was introduced, the speaker said over 244,350 acres of land in the state had been planted with forests. During the past 28 years, he estimated, over 605,514,000 trees have been set out, the spontaneous growth influenced by this planting equaling half as many more. The best and most profitable trees for growing in that state experience has shown to be as follows: Six varieties of ash, seven of oak, walnut, hickory, elm, locust, linden, sycamore, maple, willow, cedar, several varieties of pine, and many others more have been to some extent handled with success. Though nature was, after all, the best nurseryman, yet man himself could do much to second the efforts of nature. The order of planting was given as follows: Cottonwoods, box-elder, soft maple, elm, ash, black walnut, locust, catalpa, oak, etc. The convention proposed to show its spirit on the forestry question, and adopted the following resolutions:—

Whereas, We begin to realize the lamentable wasting of the forest lands of the United States, and the sad effects of destruction upon the climate and water supply of the country, and we are forced to confess our need of the knowledge of the better management of the woodlands than is now possessed by the people; therefore

Resolved, That we urge upon the state legislatures the propriety of selecting judicious persons to act as state forestry commissions, whose duty it shall be to instruct the people in regard to forest trees and their production and management; said officers to report annually upon the condition of the woodlands in their respective commonwealths.

Resolved, That we beg of all the agricultural colleges established under the land grant of congress that they shall lose no time in planting state arboreta and establishing forest experimental stations where all species adapted to the soil and climate shall be tested, and whence surplus seeds and plants may be distributed. Annual reports of these establishments to be made to the governors of the state boards of agriculture.

Resolved, That congress be asked to establish one or more experimental forest stations upon the public domain, where the propagation and testing of useful trees shall be the leading ob-

ject, with the collection of seeds and plants to be distributed by or under direction of the United States agricultural department, to which bureau these stations shall make annual reports.

THE TRADE OF QUEBEC.

The *Chronicle* of Dec. 21st give the following statement of the comparative receipts of lumber measured and culled to date;—Also, the average of the past five years:—

WHITE PINE.	
1881.....	6,029,041
1882.....	7,961,014
1,931,973 feet more this year.	
Average of past five years.....	5,733,572 feet.

RED PINE.	
1881.....	3,005,274
1882.....	3,105,329
40,055 feet more this year.	
Average of past five years.....	2,365,603 feet.

OAK.	
1881.....	2,994,477
1882.....	1,312,100
1,681,368 feet less this year.	
Average of past five years.....	1,630,202 feet.

ELM.	
1881.....	1,027,070
1882.....	714,549
313,121 feet less this year.	
Average of past five years.....	638,760 feet.

ASH.	
1881.....	408,798
1882.....	310,760
98,029 feet less this year.	
Average of past five years.....	210,936 feet.

BIRCH AND MAPLE.	
1881.....	151,774
1882.....	269,661
117,887 feet more this year.	
Average of past five years.....	285,740 feet.

PIPE STAVES.	
1881.....	418 M.
1882.....	504 "
146 M. more this year.	
Average past five years.....	331 M.

WEST INDIA STAVES.	
1881.....	671 M.
1882.....	1,429 "
758 M. more this year.	
Average of past five years.....	664 M.

SAGINAW MILLS.

The following item, being a comparison of the work done by some of the saw mills in the Saginaw Valley in 1857 with that of the season just closed, will prove interesting to many of our readers: The largest cut of any one mill in 1857, at East Saginaw, was 4,500,000 feet, that of Cushing & Co. Here are a few of the others: J. Hill, 2,500,000 feet; L. B. Curtis, 3,000,000 feet; D. G. Holland, 1,500,000 feet; Whiting & Garrison, 3,000,000; Copeland & Co., 1,500,000; Atwater mill, 3,500,000; Gallagher mill, 2,000,000; G. D. Williams & Son, 2,500,000; Curtis & King, 3,500,000. At Carrollton the mill of J. A. Westervelt cut in that year 4,000,000; the Johnson mill and Fisher mill at Zilwaukee, 4,000,000 and 1,500,000 respectively. At Fortsmith, the McCormick mill cut 1,500,000; and James Fraser mill 3,000,000; and three others from 1,200,000 to 2,000,000 each. There were 14 mills at Bay City and Kawkawlin cutting from 1,500,000 to 4,000,000 each. The mill statistics for 1857 were furnished by the Hon. John S. Estabrook, of East Saginaw, still in the prime of life and engaged in the lumbering business. Of the seventy odd saw mills now on the Saginaw river, the smallest cut of any is about 7,000,000 feet and the average will probably reach 16,000,000. The mill of Barker & Birdsall, (formerly McGraw) cut this year a fraction over 40,000,000 feet; that of H. W. Sago about 32,000,000 feet; and the Whitney & Batchelor mill 31,500,000 feet. Last year, running some nights, the McGraw mill cut 55,260,724 feet. In 1857 there were 10,000,000 shingles manufactured on the river and the past

year the quantity will considerably exceed 300,000,000. Thus do we progress.—*Lumberman's Gazette.*

BOARD OF TRADE RETURNS.

The following are the returns issued by the Board of trade, for the month of Nov., and for the first 11 months of the year:—

Month ended 30th Nov., 1882.	Quantity Loads	Value.
Timber (Hewn).	27,470	58,422
Russia.....	34,290	50,400
Sweden and Norway.....	20,034	62,498
Germany.....	3,607	20,472
United States.....	1,630	22,130
British India.....	47,071	239,503
Other Countries.....	15,777	21,349
Total.....	160,787	471,200

Month ended 30th Nov., 1882.	Quantity Loads	Value.
Timber (Sawn or Split, Planed or Dressed)	60,385	160,448
Russia.....	120,023	313,365
Sweden and Norway.....	131,708	377,034
British North America.....	11,000	37,060
Other Countries.....	330,020	893,905
Total.....	9,440	54,022

Staves, (all sizes).....	2,158	20,008
Mahogany (tons).....	450,813	1,365,111
Total of Hewn and Sawn	11 MONTHS ENDED 30TH NOV., 1882.	

Month ended 30th Nov., 1882.	Quantity Loads	Value.
Timber (Hewn).	201,023	612,021
Russia.....	584,778	929,340
Sweden and Norway.....	281,005	797,451
Germany.....	160,170	522,469
United States.....	37,419	477,129
British India.....	248,105	1,202,400
Other Countries.....	303,650	388,064
Total.....	1,897,076	4,329,873

Month ended 30th Nov., 1882.	Quantity Loads	Value.
Timber (Sawn or Split, Planed or Dressed).	1,151,571	2,908,104
Russia.....	1,596,426	4,008,588
Sweden and Norway.....	920,035	2,458,450
British North America.....	316,504	1,011,754
Other Countries.....	3,934,636	10,380,095
Total.....	113,704	608,107

Staves (all sizes).....	33,227	323,440
Mahogany (tons).....	5,881,611	15,310,863
Total of Hewn and Sawn		

How to Recognize Good Wood.

Rankine says that there are certain appearances characteristic of good wood, to what class soever it belongs. In the same species of wood that specimen will in general be the strongest and most durable which has grown the slowest, as shown by the narrowness of the annular rings. The cellular tissue, as seen in the medullary rays (when visible), should be hard and compact. The vascular or fibrous tissue should adhere firmly together, and should show no wooliness at a freshly cut surface; nor should it clog the teeth of the saw with loose fibers. If the wood is colored, darkness of color is in general a sign of strength and durability. The freshly cut surface of the wood should be firm and shining, and should have somewhat of a translucent appearance. In wood of a given species the heavy specimens are in general the stronger and the more lasting. Among resinous woods, those having the least resin in their pores, and among non-resinous woods, those which have least sap or gum in them, are in

general the strongest and most lasting. Timber should be free from such blemishes as "clefts," or cracks radiating from the centre, "cup shakes," or cracks which partially separate one layer from another; "spots," where the fibers have been crippled by compression; "wind galls," or wounds in a layer of wood which have been covered and concealed by the growth of the subsequent layers over them; and hollow or spongy places in the centre or elsewhere, indicating the commencement of decay.

AN ANGRY TREE.

A gentleman of this place has a tree which is a species of acacia. It was grown from a seed brought from Australia. The tree is now a sapling some eight feet in height, and it is in full foliage and growing rapidly. It is leguminous, and very distinctly shows the characteristics of the mimosa, or sensitive plant. Regularly every evening, about the time the "chickens go to the roost," the tree goes to roost. The leaves fold together, and the ends of the tender twigs coil themselves up like the tail of a well-conditioned pig.

After one of the twigs has been stroked or handled, the leaves move uneasily and are in a sort of mild commotion for a minute or more. All this was known about the tree, but it was only yesterday that it was discovered that the tree had in it much more life and feeling than it had ever before been credited with. The tree being in quite a small pot, one which it was fast outgrowing, it was thought best to give it one of much larger size. Yesterday afternoon the tree was transferred to its new quarters. It resented the operation of its removal to the best of its ability.

Arriving at his residence about the time the tree had been transplanted, the gentleman found the house in grand commotion. On asking what was up he was told that they had transplanted the tree according to orders and the operation had "made it very mad."

Hardly had it been placed in its new quarters before the leaves began to stand up in all directions like the hair on the tail of an angry cat and soon the whole plant was in a quiver. This could have been endured, but at the same time it gave out an odour most pungent and sickening—just such a smell as is given off by rattlesnakes and many other kinds of snakes in summer when tested. This odour so filled the house and was so sickening that it was found necessary to open the doors and windows. It was fully an hour before the plant calmed down and folded its leaves in peace. It would probably not have given up the fight even then had it not been that its time for going to roost had arrived.

The Chicago *Northwestern Lumberman* says: The figures of the secretary of the Lumberman's Exchange estimate the total amount of hardwood now in stock in 21 yards of the city, at 37,500,000 feet, which is something of an increase over the summer stocks as indicated by the figures furnished from the same source. It is apparent that stocks are not observably diminishing, and that all season they have been replaced about in the ratio of current sales.

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on Nov. 30th, 1881 and 1882, and also the Consumption for the month of Nov., 1881 and 1882:—

	Stock, Nov. 30th, 1881.	Stock, Nov 30th, 1882.	Consumption for the month of Nov. 1881.	Consumption for the month of Nov. 1882.
Quebec Square Pine	472,000 ft	351,000 ft	234,000 ft.	180,000 ft.
Waney Board	389,000 "	271,000 "	271,000 "	271,000 "
St. John Pine	5,000 "	5,000 "	Nil "	Nil "
Other Ports Pine	45,000 "	66,000 "	7,000 "	12,000 "
Red Pine	45,000 "	68,000 "	20,000 "	3,000 "
Pitch Pine, hewn	553,000 "	701,000 "	131,000 "	95,000 "
Sawn	458,000 "	626,000 "	62,000 "	66,000 "
Planks	73,000 "	90,000 "	7,000 "	2,000 "
Dantzic, &c., Fir	33,000 "	38,000 "	23,000 "	0,000 "
Sweden and Norway Fir	13,000 "	21,000 "	12,000 "	
Oak, Canadian	460,000 "	343,000 "	70,000 "	63,000 "
Planks	130,000 "	137,000 "	29,000 "	52,000 "
Baltic	68,000 "	43,000 "		2,000 "
Elm	65,000 "	48,000 "	11,000 "	32,000 "
Ash	10,000 "	16,000 "	10,000 "	10,000 "
Birch	100,000 "	60,000 "	19,000 "	40,000 "
East India Teak	20,000 "	20,000 "	5,000 "	14,000 "
Greenheart	30,000 "	188,000 "	4,000 "	3,000 "
N. B. & N. S. Spruce Deals	18,034 stds.	16,808 stds.	8,508 stds.	8,476 stds.
Pine	745 "	810 "		
Quebec Pine & Spruce Deals	10,283 "	8,058 "	2,048 "	2,078 "
Baltic Deals	3,349 "	6,130 "	517 "	352 "
Boards	246 "	668 "	14 "	157 "
Boards Flooring	1,060 "	2,718 "	672 "	810 "