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## **The Wisconsin lumberman, devoted to the lumbering interests of the northwest. Volume III. Number 3 December, 1874**

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December, 1874

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THE  
**Wisconsin Lumberman,**

DEVOTED TO THE

LUMBERING INTERESTS OF THE NORTHWEST.

DECEMBER, 1874.

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EDITORS: E. B. NORTHROP and H. A. CHITTENDEN, JR.

MILWAUKEE

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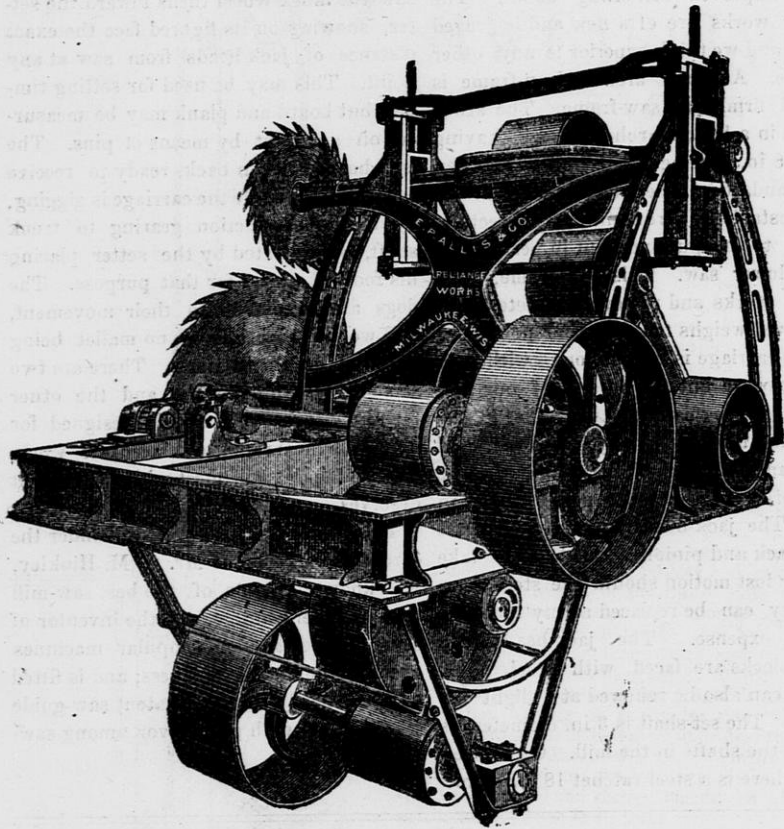
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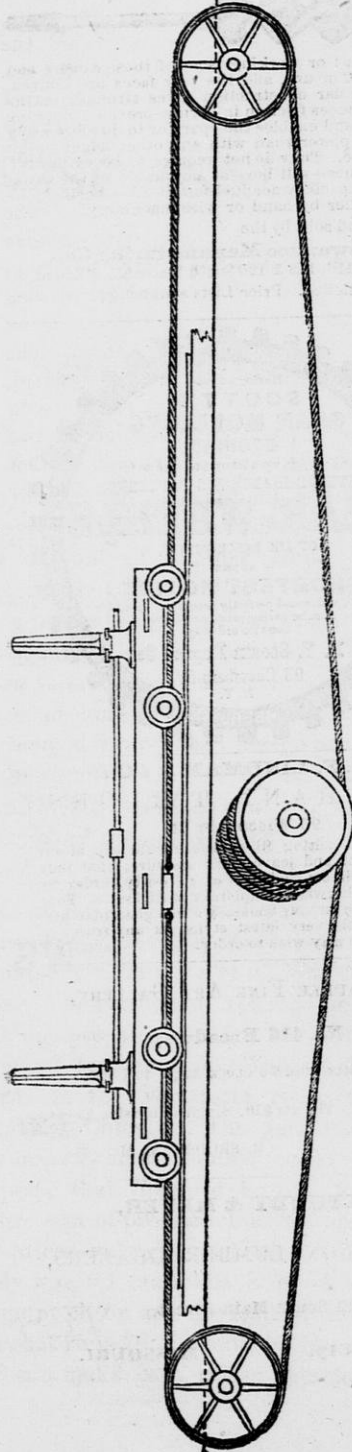
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THE

# WISCONSIN LUMBERMAN.

VOL. III.—DECEMBER, 1874.—No. 4.

## CHICAGO AS A LUMBER MARKET.

Chicago is not only the largest lumber market in the world, but it has always had an eminent reputation as a market upon which almost any amount of lumber could be placed at any time and sold for cash. As a natural result prices are proportionately low in that city. Yet when the risks and usual inconvenience of long time sales are taken into consideration, the Chicago prices are generally preferred by all lumbermen who can reach that city with their chief commodity by rail or vessel.

As an instance we will refer to a conversation recently held with a prominent manufacturer of Wausau, Wis. The gentleman referred to is making preparations for the shipment of lumber from Wausau, far north on the Wisconsin river, via Tomah to Chicago. The gentleman was asked how lumber could be shipped that distance by rail, and insure cost of production at the present prices ruling in Chicago. The reply was, "I can make a good average profit on any car load of lumber that runs 20 per cent. to uppers and can make cash sales; therefore

I shall at least try the experiment of shipping to Chicago."

There is no doubt that Chicago will very soon absorb a large portion of the lumber manufactured in central and northern Wisconsin. Already does that city control, virtually, the lumber produced in the Green Bay district. The railroads now developed in our northern pineries, all, or nearly all, tap the Chicago & Northwestern railway, thus affording means of transportation which have heretofore been lacking. The fact that Chicago is a cash market will attract large quantities of lumber, which, if it could be sold for cash at other markets further west would very naturally take the western course. As it is, western dealers will necessarily be obliged to buy more largely on a cash basis or they will have to take their lumber at second hand from the Chicago yards. It is a fact that the lumber business is much better systematized in Chicago than it is in any other market, and that alone is a great point in favor of the lumber trade of that city. There are so many considerations in favor of Chicago as a market that very soon now that city will absorb the lumber from the northern



pineries of Wisconsin east of the Black river, unless the Mississippi dealers adopt different plans of operation from the course usually pursued by them in the past. Chicago is always ready to buy and pay cash, at some price, and its business is perfectly systematized in the minutest details. Therefore that city is increasing its lumber trade every day and will soon absorb even the lumber which is naturally tributary to Milwaukee. The large amounts of lumber which formerly came to Chicago from localities in Michigan which now ship directly south into Indiana and Ohio, will be supplied from the pineries directly north and Chicago will continue to be the great lumber mart of the world. The northern manufacturers in Wisconsin are just beginning to investigate the merits of the Chicago market, and unless the Mississippi buyers very soon adopt different methods of business from those to which they have been accustomed, the entire lumber business of Wisconsin will pass out of their hands.

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THE receipts of lumber at the Chicago yards since January 1st, have been very nearly fifty million feet less than they were the corresponding time last year, if the very latest statistics are to be relied upon. And yet that market is seriously overstocked in most qualities.

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It is claimed by the Revenue department that a lumberman who keeps tobacco to deal out to and charge to his men, is liable to pay the special tax of dealers in manu-

factured tobacco. So we advise our lumbermen readers to let their men buy their tobacco from licensed dealers, and it will undoubtedly save trouble in many instances.

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#### THE VALUE OF PINE LANDS.

Last fall, when Hon. Philetus Sawyer sold 640 acres of pine lands to Capt. John Lynch at the price of \$50,000, the sale was largely commented upon as something extraordinary. It was an unusual price to pay for pine lands, yet the price per acre was but \$78. The location of that famous section of land was unusually favorable, and the timber on it was not only of the choicest variety of "cork" or "pumpkin" pine; but the section had long been noted from the fact of its being heavily timbered. In any of the older agricultural counties of Wisconsin, fair farms are worth from fifty to one hundred dollars per acre. There are real estate transfers occurring daily wherein \$50 per acre are paid for farms that the most skillful agriculture cannot make a return from of anything more than a poor living for an ordinary-sized family, aside from the cost of raising the crops which are sold. There is a far greater disparity between the nominal value of pine and agricultural lands in Michigan, Wisconsin and Minnesota, than there is in the real value of those lands. In either of the States named, in ordinary times of prosperity for both lumber and agricultural products, a capitalist can invest in a given number of acres of average pine lands and by the time the timber is cut

and sold at the profits which have usually ruled, the pine lands will have returned a clear profit on the original investment which would more than equal the entire cost of an equal number of acres of agricultural lands. In the meantime the average agricultural lands would barely have returned a fair interest on the cost of the labor of their tillage, to say nothing of interest on the capital invested. Certain it is that pine lands have always ruled less in price than they were actually worth, as a matter of investment for capital. This arises from the fact that inactive capital has never fully understood the conditions of the pine-land business and lumber trade of the country. Every other industry of the country has long had means of advertising itself to the world. It is only within the past three or four years that the lumber business has had any representative which could proclaim its workings and value to the capital of the country. It is true that sufficient capital has always been secured for the mere production of lumber, but it is equally true that there has never been a sufficiency of capital attracted towards investment in pine lands, or else the values of these lands would now be far greater than they are. The relative value of average pine lands as compared with average agricultural lands, would be greatly in favor of the pine lands if they were fully appreciated by the capital of the country. As it is to-day, agricultural lands are rated far in advance, and only because capital does not realize the difference in the pro-

fits of investment between the two. A little more attention to this matter on the part of our contemporaries, the lumber trade journals, will have an effect for good in the advancement of the values of pine lands.

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#### CURIOUS ESTIMATES.

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The traveling correspondent of the Bay City *Gazette* has been investigating the Wisconsin river pinery, and believes that there are now standing, on the Wisconsin and its tributaries, 15,000,000,000 feet of pine timber. Mr. Fitzgerald estimates 100,000 feet to every forty acres of timber; so if that calculation is correct the tract of country drained by the Wisconsin and its tributaries must contain *six million acres* of pine lands. Mr. Fitzgerald bases his estimates upon information which he says he received from Capt. Quaw of the land office at Wausau, and from Senator Thos. Scott, of Grand Rapids. The Wausau land district, which comprises even more territory than that drained by the Wisconsin and its tributaries, really contains about two million acres of pine lands instead of six millions as claimed by Mr. Fitzgerald. But we are aware that Mr. Fitzgerald's estimates of 100,000 feet to the 40 acres is considerably too low, when speaking of the average pine of the Wisconsin valley. As before stated in this journal, there is undoubtedly from twelve to fourteen billion feet of standing pine in the Wisconsin river pinery—including the tributaries of the Wisconsin—but Mr. F., in his arriving at something near that result, very palpably mis-

leads in relation to the number of acres of pine the Wausau land district.

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#### RECIPROCITY.

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The memorial and remonstrance to the Congress of the United States, from the National Association of Lumbermen, against the reciprocity treaty, has been published and is a compilation of interesting statistical facts and strong arguments against reciprocity with Canada.

To show the magnitude of the lumber business of the country, the committee who compiled the memorial have made some comparisons which indicate better than figures alone possibly could, the great business which they represent. For instance: Load the lumber annually manufactured on to cars, and it would make a train *nine thousand miles long*; or, load the lumber onto vessels, and *fifty thousand ships* of a capacity of 250,000 feet each would be required. The standing pine of the United States is estimated at three hundred and twenty-five *billion* feet. The actual cost of lumber to the manufacturer at such points as Saginaw or any of the larger manufacturing centres, is not less than \$12.25 per thousand feet. The memorial comprises twenty-nine book pages that are replete with strong argument, and will undoubtedly produce a good impression upon Congress. The committee close their memorial with the following "remonstrance":

"In our statements and arguments we have mainly confined ourselves to our own industry, and to interests

most closely allied thereto, but would suggest that other great industries—woolen, cotton, iron, steel, etc.—would be equally or more affected by this treaty. The proposal that we should practically open the vast coasting trade of our long sea coast and lakes (worth thirtyfold more than our foreign commerce) to Canadian vessels, is an amazing sample of reciprocity. The offer of equal navigation of the Canadian canals, in return for the use of our much longer and more important like water courses, is its fit companion:—especially when we consider that the canals and railroads of the Dominion are dependent on our traffic to pay their expenses, while ours are crowded with our own products. But we leave these and other questions to others, with only this word of suggestive comment. Our task has been to present statistics, reasons and arguments, to show the injustice and injury of this miscalled 'Reciprocity Treaty' to the great industry we represent. Believing fully in the justice of our cause, we close our memorial by an earnest, united and respectful remonstrance against the consummation of this treaty, and would express the hope that its rejection by the Senate may be prompt and decided."

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#### MR. LITTLE'S ARGUMENT.

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Mr. James Little, the eminent lumberman of Canada, publishes a letter under date of November 24, wherein he reviews the question of reciprocity in a logical way as it pertains to Canadian and Eastern lumbermen, and also states absolute truisms in regard to the matter as affecting the western trade in the rather remote future. Mr. Little's estimates, however, of the amount of standing pine in Michigan, Wisconsin and Minnesota, are altogether too low. The

principal points made in Mr. Little's argument are, that the eastern portion of the United States must and will have Canadian lumber, and that if the so-called "sliding scale" is adopted in the proposed treaty, that before the time for free admission of Canadian lumber, the lumbermen of Michigan who now ship eastward, will begin to think of saving their pine, and therefore production will have been so far curtailed that even with the addition of free Canadian lumber, prices will be sufficiently remunerative to satisfy all. Mr. Little believes also, that only a very short time longer is needed to satisfy western manufacturers that their pine lands will supply them but a few years more, and therefore a general curtailment must take place. He believes, in fact, that there isn't lumber enough in the west to supply the western future demand for more than ten or twelve years, and that therefore it is better for western pine land owners to hold their timber and allow Canada to supply a much greater amount of lumber to this country than it now does. Mr. Little's arguments seem to wish to impress that it will pay our land owners to allow Canada lumbermen to sacrifice their timber for our good. This is all very well, but the lumbermen of this country are well known as a liberal class of men, and their argument in return must surely be to the effect "we will do the necessary sacrifice and allow Canadian lumbermen to hold their timber until our gives out, and then we will admit your boards free of all cost." What is sauce for the goose is surely sauce

for the gander, and therefore it will be perfectly right to let Canada hold her pine for the future, while that of this country is used for the time being.

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#### CANADIAN LUMBERMEN AND RECIPROCITY.

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The discussion of reciprocity with Canada is now becoming general, and is entered into with a great deal of energy and ability, by various journals. Recently Mr. James Little, of Montreal, published a long argument in favor of reciprocity, and endeavored to prove that such treaty with Canada would result advantageously to lumbermen of the United States. The Saginaw Daily Republican reviews Mr. Little's arguments as follows: We publish in another place in this paper a communication from James Little, of Montreal, Canada, to the Boston *Lumber Trade* on the subject of Reciprocity, and the general interests of the lumber business which it will pay lumbermen to read and study. Mr. Little is quite noted not only as a land owner and lumber dealer, but as a controversialist in all lumber matters in this county, and as such his writings usually attract close attention.

There appears to us this peculiarity about all these discussions of reciprocity by the lumbermen and other interests of Canada. If we understand the status of the Reciprocity Treaty, it is already fixed by the approval of the Canadian government so far as that country is concerned, and only awaits the sanction of the United States Senate to become binding upon both governments. If we are correct in this supposition, and

we believe we are, all this apparent opposition or indifference of the Canadians may be set down as so much sand thrown in the eyes of the American people to blind them while they are being rushed into this entanglement. If we are not correct, then it is very pure philanthropy on the part of Mr. Little and such as he, to volunteer to give us so much good advice on the question. If the lumbermen of Canada are indifferent, and the lumbermen of the United States are opposed, then it will satisfy both to have the matter defeated and altogether dropped.

But unfortunately for the lumber interest of this country, it is not situated as nicely as on the other side of the line. In Canada the timber limit owners do not carry any permanent investment in the soil; their reservation payments do not amount to as much per acre as our lumbermen's taxes, and they are not subject to any of the large losses by fires, tornados, trespass and all other enemies to the timber wealth, which in this country fall upon the land and timber owner. There is a vast difference in the situation of the two, which Mr. Little always fails to take into account in all his learned arguments on the subject of American lumbering.

Granting that a large part of what Mr. Little says in regard to the overproduction of American lumber is true, (and no one has warned and warred against it more than we and a majority of the substantial lumbermen of this locality,) what would Mr. Little have the Western lumbermen do? It would be disastrous to most of them to adopt his proposi-

tion and stop production altogether, for then fire, taxes, interest on cost of lands and those splendid mills would certainly eat them up, and make them bankrupt, and the enriched Canada speculator could come in and purchase the timber and the mills for a song. Again, the labor question comes up. What shall we do with the two hundred thousand laborers that now toil as lumbermen, or with a moiety of them even, if thrown out of employment by Mr. Little's "fencing up" process? The old gentleman is wise in his political, or lumber economy, on one side—and that is the Canada side, but his wisdom is foolishness to the very babes when applied to the practical facts of American lumbering.

As to the question of the timber supply of the United States we should reply to Mr. Little in this wise. Granted that Maine is nearly stripped of timber, yet we ask that the men of Maine be protected in that little so they can reap a fair profit if possible while it lasts. Granted that Pennsylvania will be exhausted in seven years:—give to American citizens their business and property for seven years longer, and when it fails they will turn their industry and capital into other channels. Granted, that Michigan will be a tree-less state in a decade—let Michigan men who have invested their capital in lands and splendid mills, continue their industry and prosperity for the decade, and when it is gone, we will look elsewhere for employment and profit.

Mr. Little argues it is better for all you in Maine, in Pennsylvania, in Michigan to stop and wait, to give

Canada reciprocity for twenty-five years, and purchase lumber, paying interest, taxes and suffering waste and loss in all ways, and after Canada is played out what a glorious harvest will be reaped on this side of the line. We can't see it, Mr. James Little. We are afraid many of us would be too old and poor to lumber when your lumberman's millenium shall reach us. We prefer to turn the proposition square about, to dispense with reciprocity, let the Canada mills and lumbermen stand still while we pursue our legitimate business, make our living by utilizing our property, and let the Canada lumbermen do the waiting. No doubt they would reap quite as great a harvest by waiting as we would, but they are naturally lazier and longer lived, and thus stand a better opportunity of out living the timber supply of the United States and revelling in the glories of a vast lumber monopoly. How do you like that view, Mr. James Little?

But the concluding paragraph has something of the true Canadian spirit in it. Reciprocity or no, some parts of our country must have Canada lumber, and he says "it will be our own fault if we do not make them pay a fair profit on it, reciprocity or not." We should like to shove that idea hard into the brain of every reciprocity and free trade member of Congress from New York and New Jersey. the states that most depend upon Canadian supply. It would not blunt their ideas of Canadian intrigue and extortion, to say the least.

But lumber is not the only point of interest to this reciprocity business. The whole farming, mining,

manufacturing and laboring elements of the United States are to be effected by it. The whole revenue system of the country will be effected and largely revolutionized. It will conflict with, and cause to be modified all our treaty stipulations with other foreign powers. It is a method of legislation by a fraction of the government upon tariff and revenue matters in conflict with the U. S. Constitution, and it would as certain as time rolls on lead to disastrous results upon business, if not to the more disastrous necessity of foreign war. To accord all other nations "equal privileges with the most favored" would destroy our commercial, financial and business interests; to refuse after ratification to carry it out is a *causas belli*. There is but one safe path for the American Senate and people to pursue on this question—to give it an ignominious defeat, and teach Canadian, English and American free traders that our Congress is not yet ready to sacrifice and destroy what little prosperity and property civil war and foreign scheming has left to our people.

#### THE APPROACHING LOGGING SEASON.

The Green Bay *Gazette* states some wholesome truths in commenting upon an editorial entitled "The Approaching Logging Season," published in the November number of this publication. The *Gazette* states the real facts in the way of acceptance of proposals for curtailment of operations, as follows:

"One of the most valuable class of publications we know of, the WISCONSIN LUMBERMAN, has lately been in-

dulging in some plain talk to the lumbermen on the insane policy they pursue in overloading the markets. The recent convention of lumbermen held at Ottawa, Canada, resulted in nothing. A series of resolutions was adopted recommending a curtailment of production, but they amount to nothing. While a great majority of lumber manufacturers are heavily in debt, it is suicide to stop. His interest runs on all the same, his taxes also; all his indebtedness becomes pressing for payment, consequently he is, in a measure, carried along a current too mighty for him to stem. There may be ruin ahead, but there is certainly ruin behind. So he goes on borrowing, paying ruinous rates of interest, long prices for supplies in the hope that something will turn up to let him out. He cannot sell his mill property, his loggers cannot dispose of their logging rigs, his creditors so long as he pays interest renew their loans on the same old security, and until the inevitable end comes he goes on to the end of the chapter. The LUMBERMAN thinks there are really but two considerations in the question of curtailment in logging this winter. One is a relation to the logger to get money, and the other depends upon the favorableness or unfavorableness of the season."

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EASTERN advices are all to the effect that there is a decided improvement in the trades this fall over that of last season. Receipts at the different eastern markets are light. The business indications all seem to point to fair trade throughout the winter.

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A railroad is projected from Rockford, Illinois, to reach Beloit, Wisconsin, and to be extended afterwards to Madison, Portage, and into the northern pineries. So the *Railway Register* says. Wheth-

er or no there is any basis for this particular project, such a line as this will soon become a commercial and logical necessity. It is not within the compass of any legislature to make lumber travel by a crooked route. Some of our legislators, however, seem to think it is.

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#### LUMBER SHIPMENTS.

The shipments of lumber from the Chicago market, from January 1st to December 1st, have exceeded the shipments during the same time last year, by nearly thirty million feet. The receipts of lumber at the Chicago market since January 1st, have been about four million feet less than they were the same period in 1873. The eastern markets, as a rule, do not show such a favorable result, and we find that Williamsport has shipped over three million less this year than last. Toledo has 58,750,000 feet to go into the winter on, notwithstanding that market has enjoyed a fair summer's trade. At Albany and Troy the trade improved late in the season, and the stocks to winter over are much lighter than was at one time expected. Shipments for the week ending December 1st were especially brisk; owing, no doubt, to the approach of the close of navigation. The shipments from the Saginaw river have been about 35,000,000 feet in excess of the shipments from that locality last year. The increase in shipments from the more important lumber points does not indicate that a greater amount of lumber has been consumed for building and other purposes than there was last year, but simply that the low prices have been taken advantage of, and that the retail dealers are carrying

unusually large stocks. There is undoubtedly more lumber now in the retail yards of the country than could be disposed of next season without the addition of a single board. Increased shipments from the large markets this year is a sign that the low prices have been taken advantage of, and is not a sign of any increase of demand from the consumers. Manufacturers who believe stocks are reduced this fall, will find that they have miscalculated.

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#### LOGGING PROSPECTS.

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The lack of snow which everybody is remarking upon as an extraordinary circumstance, is likely to have a beneficial effect upon the lumber trade. Whether loggers are disposed to stand by their agreement entered into at the Saginaw convention or not, production will be involuntarily restricted by the physical impossibilities in the case. Last year there was snow enough in the Wisconsin pineries to admit of the easy running of teams, six weeks previous to this date. The present season there has not been, as yet, an opportunity for teams to go into the woods at all. The same report comes to us from Michigan and other lumbering localities. This loss of time cannot possibly be made up, even under the most favorable combination of circumstances during the rest of the season.

The prevailing high prices of feed and other supplies required by logging parties, will have an additional effect in restricting operations. The lumber trade of the country can never be fairly set upon its feet again until the great existing surplus has been worked off and gone into consumption.

It has been pretty conclusively shown that lumbermen either will not or cannot do anything towards checking the ruinous over-production which has been going on. A correspondent from Oshkosh informs us that logging parties are out in great force in that vicinity, manifesting the greatest eagerness to make up for lost time and professing with lugubrious merriment a willingness to "all go down together." If the whole business can be taken out of the hand of its present mismanagers and judiciously regulated by the clerk of the weather, so much the better for all concerned.

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#### A VALUABLE INVENTION FOR MILL MEN.

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We call the attention of mill men to our illustration elsewhere, and to the following description, of Mr. Willard Lamb's wire rope saw carriage movement. Mr. Lamb is himself a practical manufacturer and one of the best known lumbermen of the Green Bay shore. After one and one-half year's use of the wire rope saw carriage movement he recommends it as superior to any in use. Its simplicity of construction, reliability of action, and durability of the wire rope, all combine to make it one of the most desirable movements ever placed in a mill. It obviates all liability of injury to the saw which is liable to occur in the cog movement, viz.: Saw dust coked in pinion or rack, thereby raising the carriage and log while the saw is in the cut. Dispenses with 1000 to 1500 pounds of rack and rack stick to start or stop ten or twelve times per minute. No running off the pinion and hand-spiking and weighing down rack stick to get back in gear. No stop-



ping to put on new pinions or to tighten the rack. This movement is always in gear and ready to run the whole length of the mill. This movement also produces a steadier motion of the carriage while being drawn to the saw than the cogs can produce, as the opposite end of the rope serves as a tension, preventing the log from being drawn on to the saw when cutting cross grained timber. As to the durability of the rope, we would say that the year and a half that his mill has run, they have not been detained five minutes with the wire rope; the wear thus far on the rope is scarcely perceptible. The construction of this carriage movement is plain and is described as follows:

The rope is passed three or four times around a 28 or 32 inch spiral grooved pulley, 20 inch face on the feed shaft, where the pinion is usually used; then leading off the under side; thence through under the bed timbers to or near the end of the mill, and then up over a 28 to 32 in. sheave (marked B) and attached to the carriage girths. The spiral rope wheel and sheave should be of iron as it holds the rope in its form, and its even surface adds to the durability of the rope. The sheave may be grooved  $1\frac{1}{4}$  inch deep, the bottom same circle of rope, the sharp corners to be taken off to prevent the liability of injury to the rope. This plan carried out will prove more profitable to the owners instead of using wooden wheels. The rope wheel and sheave should be set so as to have the rope pulling the carriage back, a little nearer the saw, than the average heft of carriage and log, thereby inclining the carriage a little from the saw. The rope wheel may be placed all below the floor, or project a little above as most convenient

to feed works. The feed friction should be eight or ten inch diameter and twelve inch face. The gig friction should be twelve or fourteen inch diameter and twelve inch face, and geared on a four foot wheel twelve inch face, which should run the feed 500 feet per minute and gig 1000 per minute, or as required.

A  $\frac{3}{4}$  inch steel wire rope should run on a 28 inch pulley for most mills; or for very heavy work a  $\frac{7}{8}$  inch rope on a 32 inch pulley; if to run a cant mill carriage, the rope might be used  $\frac{1}{2}$  or  $\frac{5}{8}$ , and the pulley 26 inches.

The pulley (A) should be grooved in, nearly one half the diameter of the rope; with the same circle as the rope with 1-16 inch lead more than the diameter of the rope, for the purpose of preventing the ropes from rubbing together.

For the necessary gear or information apply to W. H. Hiner, Fond du Lac; John F. Morse, Fletcher & Everett, and C. C. Paige, Oshkosh; Filer, Stowell & Co., Milwaukee; Frank G. Noyes, Clinton, Iowa; Cummings Bro's., Lyons, Iowa; Taylor & Duncan, of Fort Howard Foundry and Machine works; John Whitney, of Novelty Iron Works, Fort Howard; and D. Clint Prescott & Co., Marinette, Wis. Upon receipt of the address of purchasers, town, county and state given, in which the movement is to be used, Mr. Lamb will fill out and send assignment of right. He places the royalty on one single right at \$100 for circular saw mills, \$50 for lathe machines and \$25 for cut-off saw machines, for which a  $\frac{3}{8}$  rope may be used on 12 inch diameter wheel and shears—the face of the rope wheel 6 inches.

Parties interested in this subject should address, Willard Lamb, Green Bay, Wis.

## REVIEW OF THE WOODS FIRE IN NORTHERN WISCONSIN.

The year of 1871 is branded in the memory of the people of northern Wisconsin by an event the most minute details of which will be remembered for generations to come. We speak of the great woods fire which swept over the counties of Oconto, Brown, Kewaunee and Door with such fearful destruction of life and property; sparing neither age or sex, palatial farmhouse or backwoodsman's hut, lapping up the busy pioneer mill with its collection of workmen's shanties, and finally, gaining renewed power, would sweep down upon some sturdy young village, teeming with life and prosperity, with a force that was unconquerable—unresistable. The story so well told is still fresh in the memory of all, yet, three years with their shifting scenery have intervened.

In passing over the scene of the catastrophe, we had an opportunity of observing its effects, which are not now, or will not be obliterated for more than one decade to come. For miles and miles in length in traveling over this seemingly God-forsaken region the eye meets nothing pleasant to behold; black, charred masses of logs and stumps in the wildest confusion remain to mark the resting-place of the towering forests that have become a prey to the hurtling winds of the ruthless fire king.

Nature, it was thought by the survivors of the holocaust, would be the great restorer. She would clothe these blasted fields in garments of purity, and hide these hideous scars under her mantle of snow, and in the

spring bring forth flowers and start again the ceaseless rounds of life. The fields would be decked with green, the song of birds would be trilled in the woods, and the low of cattle be heard on her hills, and the sound of axe and hammer, and the voices of busy men fill the then voiceless solitudes. Thus it was thought life would fill up the void of death and be

—“the weakest proud built isthmus that doth proudly rise  
Up betwixt two territories,  
Yet cans't not wind or wave sustain,  
But broken and o'erwhelmed the ocean meets again.”

Yet only in a measure have these fond anticipations been realized. True, the sturdy settlers, with the assistance of a benevolent public, repaired to their wasted dominions, rebuilt their cabins, and again made the soil laugh with bounteous harvests, but their surroundings are still gloomy and desolate.

Among the many curious freaks of the fire it will be remembered that wherever the flames passed the soil was literally converted into ashes for a depth of from five to ten inches.

This land it was predicted at the time to be utterly worthless and unprofitable, but, contrary to the prediction, it has proved exceedingly rich and fruitful—the ashes acting as a manure. The people in the burned district are in constant fear of a repetition of the dreadful event, and well they might, for the fallen timber, now as dry and fusible as tinder, needs but the touching of a match to again start the flames on their mad career. In the Belgian settlement in Door and Kewaunee counties, where superstition reigns

to a considerable extent, numbers of the settlers, believing the community accursed have incontinently fled the place. We can hardly condemn their judgment, however absurd it may appear to a non-observer. In the Belgian town of Red River, Kewaunee county, no less than sixty-five families of fire sufferers will be obliged to live upon the town charity during the coming winter. In the towns of Lincoln, Union and Brussels, this state of affairs exists to a more or less extent, and the fact demonstrated that a slight failure of crops would place the most opulent of these survivors in destitute circumstances. This is no exaggeration. It is a sober fact. The sufferers have not by any means recovered from the effects of the great disaster of October, 1871, and in many places are actually suffering for the want of plain necessities of life.

The effect this great conflagration had upon the business interest of the community is greater than at first anticipated. In fact, the timber supply has been cut down no less than one-half, and mills are closing up business that otherwise would have run with a full stock of logs for several seasons longer. One great feature of the business of the counties of Door and Kewaunee which has been damaged to a vast extent is the shipment of ties, cedar posts, cord wood, hemlock bark, telegraph poles, etc., to a southern market. In addition to the timber totally destroyed a very large amount was killed, so that unless immediately manufactured it became subject to rot. The owners of this property have found it im-

possible to secure the timber in these trees in time to save it from total destruction, and, as can be imagined, results in the loss of a vast source of revenue.

Mr. A. W. Lawrence, a partner in a large lumbering establishment at Sturgeon Bay, says that since the fire no less than one-third of the standing pine timber is invested to such an extent with worms that when sawed it is assigned to the "cull pile." In conversation with Mr. C. W. Dikeman, the proprietor of a shingle mill near Kewaunee, we ascertained that the intense heat killed the sap of the timber, and, although to all outward appearances it is sound, proves to be "wormy" when cut.

During the past fifteen years, Kewaunee county has shipped no less than 200,000,000 feet of lumber to market, and, we dare say that Door county has furnished an equal amount. In the former county at the present time there is not over 25,000,000 feet of available pine timber standing. When we take into consideration the innumerable small losses, not counted at the time, but meanwhile swelling into an aggregate that far surpasses the estimate loss of 1871.

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Horning's, Bowen's, and Waldo's mills at Clare will require at least 5,000,000 feet, and for other mills whose lumber and shingles are shipped from that point, about the same amount of logs will be put in.

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Wilson Brothers, further south, will stock their mill with about 2,500,000 feet.

## WISCONSIN WOOD PRESERVING CO

### THE THILMANY PROCESS OF TURNING WOOD INTO STONE.

One of the Modern Wonders of Science—  
A New Industry for Milwaukee—Theory of  
the Thilmany Process—History of the Enter-  
prise—The New Works of the Company.

A company known as the Wisconsin Wood Preserving Company has been formed in Milwaukee for the purpose of utilizing the Thilmany process of preserving wood from decay. Its capital is \$100,000. Its officers, who comprise several of the best known and most enterprising residents of this city, are:

PRESIDENT,

George Burnham.

VICE PRESIDENT,

Louis Auer.

TREASURER,

John Pritzlaff.

SECRETARY,

J. A. Becher.

SUPERINTENDENT,

W. Thilmany.

DIRECTORS,

George Burnham, John Pritzlaff  
Louis Auer, J. A. Becher,  
W. Thilmany.

The company's office is at 142 Clinton street, where Mr. J. A. Becher, the secretary, is usually to be found. The company during the past season have erected three capacious buildings at an expense of \$50,000 and supplied them with the necessary machinery for carrying on the business.

#### THE THILMANY PROCESS

consists in impregnating the wood with sulphate of copper and the chloride of barium, the two together forming the sulphate of baryta, the

most powerful petrifying agency known to chemistry. The idea, then, is to petrify the wood and make it impervious to water or air. Of course if the company is able to prepare the wood so as (in a measure) to turn it into stone, (which is a chemical possibility) they have solved the grand problem of making wooden pavements cheap and lasting.

#### THE BUILDINGS

and their appointments are very complete. The first is 30x70 feet, and contains the machinery necessary to force the preserving solution into the wood. An iron track connects this branch of the establishment with the saw mill. Small cars loaded with green blocks are run into a huge copper boiler, six feet in diameter, 65 feet long and made of copper plates  $\frac{3}{4}$  of an inch in thickness. Here the blocks are thoroughly steamed, thus pressing all the sap out of the pores of the wood. This accomplished, a powerful air pump driven by a 40-horse power engine, exhausts the air in the boiler and also extracts both the air and steam from the pores of the wood, which is now ready for the solution of sulphate of copper. This is let in from a tank outside, having a capacity of 4500 gallons. After the blocks have been thoroughly impregnated with this substance, the air pump is quickly brought into use and the unused matter driven back into the tank. The air again being pumped out, the boiler is filled with the chlorid of barium, with which the wood is thoroughly saturated, as it has been before with the copper solution.

This is the whole *modus operandi*. When the wood leaves the boiler it is supposed to be prepared to bid defiance to the elements and even to the tooth of Time.

#### THE SAW MILL

is a one-story structure, 32x40 feet, on the ground. The machinery consists of a gang of saws capable of cutting three paving blocks at a time. A 40-horse power engine and boiler will also be found here, with all the necessary apparatus for the speedy handling of the lumber stored on the dock.

#### THE STORE-HOUSE

is one story, 12x28 feet. Here the chemicals are kept. The company have a good supply on hand, and are now in full operation.

During the reporter's visit the propeller Messenger steamed up the river and commenced discharging 60,000 feet of clear plank at the company's dock.

It is claimed that the process is applicable to all kinds of timber, such as railroad ties, fence posts, spiles, bridge timbers, shingles, and every other piece of wood that is particularly exposed to the action of the elements. The theory is certainly a plausible one. Whether science is capable of successfully combating the destructive and disorganizing propensities of nature as applied to matter from which the living principle has been taken, remains to be seen. The officers of the company who are versed in this branch of science, believe that it can.

#### HISTORY OF THE COMPANY.

To Mr. John Pritzlaff, a leading hardware merchant of this city, is

due the credit of having introduced this valuable new industry to Milwaukee. During a trip east last summer, he stopped at Cleveland, Ohio, where his attention was called to the art known as the "Thilmany process" of impregnating the wooden blocks used for street pavements, for the purpose of preventing that most objectionable feature raised against wooden pavements—the rot. Having satisfied himself, after due inquiries, that there was no humbug about it, and that the process stood the test not alone in Cleveland, but had been tried for many years in Europe, he requested the American Wood Preserving Company to send one of its representatives to Milwaukee, to call the attention of our city authorities to their process, and, if practicable, have the same introduced in this city and state. The company complied with this request, and soon made a proposition to erect extensive works in this city for the purpose of impregnating timber used for bridges, docks, street pavements, etc., provided it should meet with proper encouragement on the part of the city authorities. The result of these efforts of Mr. Pritzlaff and of the substantial and enterprising citizens whom he interested in the subject, was the addition of a most promising industry to the commercial resources of Milwaukee.

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Further east at his place, it is yet undecided what amount will be put in for Van Patten & Co.'s large mill, but perhaps not less than 5,000,000 feet.

## THE LOGGING SEASON.

But little snow has fallen up to the present date, and preparations for logging are therefore somewhat retarded. There are numerous reports from different portions of the pinery regions, all indicating that there will be less logging done this season than there was last. The talk is about the same as the reports of last year at a corresponding time. It will be remembered, of course, that the reports of last season were correct and that there was not as much logging done as during either of the two preceding winters. There is no good reason to believe that there will be as great an amount of logging done this season as there was last, even. Most lumbermen are down just as flat as the lumber market. They feel sick. But it is believed that if not a single log was cut this season, that owing to the general depression of business and lack of demand for lumber, we would find the close of 1875 with plenty of lumber in all the yards. It may be granted that the cut this season will be light; yet it will be heavy enough, undoubtedly, to keep prices down next season to the level they have assumed this. There are many good reasons for supposing that the cut this season will be less than usual, but there is no reason to think for a moment that it will be sufficiently less to cause any advance in prices next season. Good work has been accomplished in the matter of agitating the question of curtailment, and next year it may be possible to bring about actual curtailment by

agreement, if the subject is discussed early enough to allow of time to perfect such arrangements as would be necessary. It will undoubtedly be unwise for lumbermen to entertain the idea that there will be a scarcity of lumber next season, under any circumstances; for should the crop this winter be but half what it was last, still there would be a sufficiency of lumber in the market to supply all demands.

## ANTI-RECIPROCITY.

The Saginaw Lumbermen Again in Session  
—They are "Arming for the Fray."—Good  
Feeling Manifested, and Decisive Action  
is Pledged.

The Lumber Association of the Saginaw Valley held a meeting at the Exchange in East Saginaw Saturday afternoon, 12th, at which Mr. Charles W. Grant was called to the chair, and in the absence of the secretary, Mr. George W. Hotchkiss was chosen secretary *pro tem*. The chair stated the meeting had been called mainly to counsel together upon the question of reciprocity. There was a feeling abroad that more work must be done to defeat the treaty, or at least to protect the lumber interest. There was no doubt we were in peril, and the lumbermen must rally again as they did when other dangers were impending, and prepare to take each a personal interest, and if necessary to go to the capital and fight the enemy in the halls of the capitol. But there must be some unanimity and all must think as near alike as possible and work together. When we can do this we have power and force, as had already been demonstrated. He hoped the meeting would result in quickening every lumberman in the valley to a full sense of the danger of his personal responsibility to do his full duty.

Mr. J. S. Estabrook, from the Me-

memorial Committee appointed by the National association to prepare a memorial, stated that their conclusions as finished are before the senate committee. Two thousand copies of the memorial had been printed and distributed. He supposed the object of the meeting to be to supplement that report by arranging for a larger delegation to hold themselves in readiness to visit Washington when the bill came up in the senate for action. The treaty is being urged by a strong influence, backed by men interested, with an abundance of money at their disposal, and its passage should be resisted by all the strength we could muster. He stated that there would probably be no action taken in the matter by congress until after the holiday recess; meantime the question should be agitated, and when the proper moment arrived the association should resolve itself into a delegation and go to Washington. Committees appointed by the memorial committee had been at work soliciting subscriptions to meet necessary expenses, and between seven and eight hundred dollars had been raised in East Saginaw, four hundred and twenty in Bay City, while reports from Saginaw City had not yet been received.

A general discussion followed, participated in by Messrs. Youmans, Horr, Burt, Whittier, Eddy, Albert Miller, Cranage and others.

Mr. Horr had examined the memorial prepared by the memorial committee of the national association, and thought it exhaustive and complete. He thought it remarkable that, while the message of President Grant to congress bristled with allusions to treaties, no notice whatever was taken of the reciprocity treaty. He believed this a good omen; the president sees that the people are opposed to it. The iron and wool interests will join in the opposition.

Hon. W. R. Burt moved that a committee of eight be appointed to act in conjunction with the memorial

committee in arranging details, raising the necessary funds, etc. The motion prevailed, and the following gentlemen were appointed as such committee:

N. S. Lockwood and Geo. F. Williams, Saginaw City; J. S. Estabrook, J. A. Whittier, and R. G. Horr, East Saginaw; Thos. Cranage, Jr., J. Shearer, and H. M. Bradley, Bay City.

Mr. Burt moved that the members of the association be assessed thirty dollars each for the purpose of raising funds necessary.

The motion prevailed.

Mr. Whittier submitted the following resolution, which was adopted:

*Resolved*, That the lumbermen present give assurance to all others interested in defeating the reciprocity treaty to contribute liberally of their means, and further that they pledge themselves to promptly respond in person when it shall become necessary to have the lumber interest represented before the United States senate.

The following resolution was also adopted:

*Resolved*, That the secretary of the association notify the members of this association of the action taken by this meeting, and that the treasurer draw drafts on each member at five days' sight for \$30.

On motion a committee of five consisting of John G. Owen, W. R. Burt, Ezra Rust, Albert Miller, and Thomas Cranage, was appointed to memorialize the state legislature to enter a protest as a body against reciprocity to be presented to the United States senate.—*East Saginaw Republican*.

Wise's lower mill, near Coleman, will require 2,000,000 feet.

Pierce's and Hubble's mills, at Colemans, will require about 3,000,000 feet. All these mills, we learn, are to be supplied with a full stock for next spring.

## WHERE WISCONSIN LUMBER GOES

### DESCRIPTION OF ONE OF THE GREAT MISSISSIPPI VALLEY MARKETS.

How the Lumber Forests Look in the Burlington Yards—A Short Stroll Among the Saw Logs with their Hair Combed—Over Eight Hundred Million Feet of Lumber Handled during the Summer—Over One Hundred and Fifty Million Lath and Seventy Million Shingles Handled during the Season—Nearly a Thousand Men kept in Steady and Well Paid Employment.

What iron is to Pittsburg, what boots and shoes are to Lynn, what pork is to Cincinnati, what grain is to Chicago, what whisky is to Peoria and government officers are to Keokuk, the lumber trade is to Burlington. Out of the dark pineries of Michigan and Wisconsin, labor has wrested mines of wealth that are of greater value to mankind than mines of gold. And down the swift currents of snow fed rivers, dashing over their foaming rapids, and down the winding channel of the Mississippi, comes more of this wealth to the doors of Burlington than even our own citizens, not directly interested, know of. The lumber rafts that lay along the levee, the logs that are floated to the saw mills bring many thousands of dollars into our city, and distributes many thousands among its laboring classes, keeping it in healthful circulation and adding more to the prosperity of the city than any other one interest. Its importance as a factor of the city's great future cannot be overrated. Much as it had already done, it can do a great deal more; its future development promises to be as great and rapid as it has been in the past. Its gigantic proportions to-day are the result of thirty-two years growth. What the limits of the trade will be in the next decade, no one can now predict.

#### THE SEASON.

About the first of April the raft

boats begin to make their trips, and the long rafts of lumber and saw logs soon line the levee, monopolizing every practicable foot of space not reserved by the packet company's wharf boat and the ferry landing. From this time on through the spring, summer, and far into the fall the "lumber pullers" are busy, missing in all that time, perhaps not a working day, and at the farthest less than a week. Some seasons some of the men will work along until the ice is in the river.

#### WHERE THE RAFTS COME FROM.

The bulk of the lumber handled in Burlington comes from the Wisconsin pineries, from the St. Croix, Chippewa, Black and Wisconsin rivers. With the exception of E. D. Rand & Co. and one other firm, who get out their own logs from the pineries, the dealers in this city make contracts with the lumbering companies for their lumber or buy the rafts that are put on the market in the river. The "Union Lumbering Company," of Chippewa Falls, and the "Eau Claire Lumber Company," furnish large supplies of lumber and logs to some of our most prominent firms, dealers and mill manufacturers.

#### THE RAFTS

of mill run lumber that are brought down by the raft boats during the season vary largely in their size. The smaller ones contain not more than 500,000 feet of lumber, and from this they will go up as high as 2,000,000 feet. This, however, is unusually large. A raft containing a million feet of lumber is considered a large one. The log rafts will average about 600,000 feet. There is some waste, aside from the ordinary breakage, in the lumber raft, but it is all utilized. The "grub planks," which are used in making up the raft, are sold for work which does not require perfect pieces, and are also largely used in the construction of sidewalks in the city, and the stranger in the city, who comes from interior and lumberless



districts, soon learns the cause of the perforated condition of the planking underneath his feet. The oar poles always meet with ready sale, as they are used in the construction of sheds, and such buildings as ice houses, etc, and for a sufficient variety of purposes to make the demand for them very active and steady.

The romance has gone out of rafting to a great degree, just as the romance has gone out of everything connected with business in these stirring and progressive days. The raftsmen who are handed down to posterity in all the glory of the geography illustrations, and whom literature and imagination combined to teach us were real, actual existences, living in the most hilarious contentment on the raft and passing life in one unbroken round of card playing, fiddling and dancing, while their raft floats lazily down the stream have taken their places at the Titanic oars, and a noisy raft boat, powerful enough to pull an island out of the way, pushes the monstrous raft to its destination. The raft doesn't wait for the current any more.

When the raft reaches the city, and after most dextrous manipulation, for it is a most unwieldy craft to handle, it is moved to the levee, it passes into the hands of a particular class of workmen, a set of amphibious workers who go into the river when the first raft comes down with the last ice, and from that time until November frosts drive them out, they take a great deal more profit out of the water than Pharaoh's daughter did.

#### THE PULLERS

who take the lumber out of the water are paid by the crib. Their work is hard but it is remunerative. They take the lumber out of the water, wash every board and pile it up on the levee for the teamsters. They are paid \$1.50 a crib, and will get out two or three cribs per day, making better wages than the majority of

laborers. A crib will run from twelve to twenty courses deep, but on an average they contain about eight or nine thousand feet of lumber; so the puller don't do any loafing during his working hours, and all that he makes he earns.

#### THE VALUE OF THE LABOR.

And when the rafts are taken out of the water, and the teamsters have hauled the lumber to the yards, we are given a striking instance of how labor, like the touch of Midas, turns everything into gold that it handles. The lumber in the stump, or as it stands in the forest, is worth from two to five dollars per thousand. It passes through the great mills in the pine districts, and it is sold to Burlington buyers at from nine to fifteen dollars per thousand. This comes to Burlington in the raft, unassorted, mill lumber, and it is taken to the yards and sorted up, the upper grades are sent to the planing mill and comes back to the yard flooring, dressed siding, first clear, one and a half and two inch stuff, and finds sale at prices ranging up to \$50 per thousand. And all this great increase from the stumps price is represented by labor, and the greater part of that labor is paid right here in Burlington. The lumber that comes out of the Mississippi river, worth from \$9 to \$15, goes out over the Burlington and Missouri River railway and its branches, quoted at from \$10 to \$50. And the labor which adds this much to the value of the lumber is done in this city, and the money that is paid out to it stays and circulates in the city, and a great deal of it passes into the hands of the laborer, for the advance noted above does not stand by any means, for the dealer's margin on the lumber he handles. The profits in the business are not so large as in many other occupations; the dealer's margin is small, and he must measure the amount of lumber he handles by millions, before he can count his profits by thousands. Far-

ther on, we shall see how many men in this city handle the money which is paid out to thus enhance the value of the rafts.

#### THE LUMBER REGIONS.

Very few of our readers are aware how much room the lumber yards take up in this city. We see the dealers utilizing every available foot of space, and economizing room by building the piles of lumber heavenward until it is a mystery to the unobservant how they reached the boards up to the man who worked aloft, and as we pass by the yards we can see the outside piles of lumber, and occasionally notice an alley leading off down into a lumber region in which we notice gangs of men busy at work. But you must follow one of those alleys at the imminent risk of knocking a plank off of some brawny workman's shoulder with your eye every time you turn a corner, and get yourself lost in the wilderness of civilized sawlogs which loom up above you in their christian names of fencing, boards, scantling, joists, &c., in order to form even an approximate idea of the amount of room required for the lumber business of this city, and as much as it has, it is still clamoring for more. A dealer will walk over ten or twelve acres of ground piled high with lumber, and then complain to you that he is crowded and can't do the business he would if he had half room enough. E. D. Rand & Co. occupy about fifteen acres of ground with their yards; Gilbert, Hedge & Co. about as much; Millard & Co, nearly that much, ten acres probably; F. T. Parsons & Co. about five or six acres; the yards at the mills as much more; and in this we only estimate the principal yards of each firm. There are branch yards established at various points where they can find room, but the principal yards alone occupy at least fifty acres inside the city limits. And these yards are small towns, laid out in streets, flanked

with towering piles of assorted lumber, and inhabited by from forty in the smaller to a hundred and fifty men in the larger yards.

#### WHAT IT STARTED FROM.

We have not got down to figures yet. We have merely glanced at the outside appearance of a trade of thirty-two years growth, but we will see now what it amounts to when brought to the solid test of figures.

In 1842 the first lumber yard in Burlington was established by E. D. Rand. It was not an imposing establishment, but it lived, and grew and prospered apace. Its business was pushed into every opening that appeared; where no openings appeared, the enterprise of the founder of the Burlington lumber trade made them. For quite a number of years this pioneer establishment enjoyed the monopoly of what trade there was, and it also enjoyed the monopoly of making trade where no trade was, and of fighting for its share against the strongest and most determined competition from other sources. But unfaltering perseverance and far-seeing business shrewdness, aided by Burlington's national advantages as a distributing depot, triumphed over every discouragement, and the business established by Mr. Rand in 1842 has developed into proportions that no one at that time would have dreamed of predicting. And the central yard has reached out and established branches at various stations on the line of the Burlington and Missouri River railway, which are kept in stock from the Burlington depot.

Since 1852, Mr. Rand has had associated with himself in business, Mr. J. M. Sherfey, and since 1866 Mr. W. Carson, the latter gentleman being a resident of Wisconsin where he looks after the interests of the pine land owned by himself and Mr. Rand. More than half the lumber handled by this firm at this point is manufactured by them in the pine

regions of Wisconsin. During this season this firm has handled their usual amount of lumber, which is

TWENTY MILLION FEET.

In addition to this is to be computed the usual amount of shingles, lath, etc. Of this, their annual supply, they manufacture about twelve million feet at Eau Galle, Wisconsin, and the balance is brought from the Wisconsin, Black, St. Croix and Chipewewa river manufacturers.

WORKMEN EMPLOYED.

During the eight months, from April 14 to December 15, they employ one hundred and twenty-five hands, and for the balance of that time about half as many. The weekly payroll amounts to about \$1,250, a great deal of money for one firm to put in circulation where it will be used right in the city.

The trade of this yard is principally with dealers on the Burlington and Missouri River railway and its branches in Iowa. It also extends into Nebraska, Kansas and Missouri, and into the adjacent towns in Illinois. While this business, established by Mr. Rand, has been so prosperous, he has extended his investments and energies in other directions and has done much for the improvement of the city by the use of his means in such a manner as is highly appreciated by the Burlingtonians.

GILBERT HEDGE & CO.

While the pioneer firm was growing up with the city it was doing so much to push ahead, other firms were developing the Burlington lumber market to still greater importance, and among the most prominent were Gilbert Hedge & Co. This firm, like that of E. D. Rand & Co., boasts a business pedigree that dates back toward the pioneer times of the city, so far as twenty-two years ago, when it was established by J. W. & W. D. Gilbert. The firm as at present composed, however, dates from 1866. The Messrs. Gilbert

opened their first yard sometime about 1852, with a stock of one hundred and fifty thousand feet. The stock they carry now would hide their entire yard that then was so that it could never be found, and the contrast between carrying one hundred and fifty thousand feet and about ten miles in feet of lumber must be very gratifying to these gentlemen who put their youth and pluck and money into the business when it had everything to accomplish. The present firm comprises W. D. Gilbert, Thomas Hedge, J. W. Gilbert, and James I. Gilbert. Mr. Hedge is one of the oldest residents of Burlington, having been a citizen here since 1836. The firm now is second in importance to none in the State. It is largely interested in Wisconsin pine lands, and their operations in them is no small feature in their business.

THE SEASON'S BUSINESS.

During the season just closing, Gilbert, Hedge & Co., have handled nineteen million five hundred thousand feet of lumber, twelve million shingles, and four million five hundred thousand lath. During the season of pulling and piling they employ thirty teams and one hundred and fifty men, which will represent a weekly pay roll of two thousand dollars.

Their shipments are made on all roads leading from Burlington. Their principal trade is in Iowa, Missouri, Kansas, Nebraska, and in the counties of Illinois adjacent to Burlington. They make shipments to the west as far as Laramie, Wyoming Territory, and south to Wichita and Winfield, in Southern Kansas.

F. T. PARSONS & CO.

This firm has established itself down in the heart of the city, and its yards occupy about five acres or so on either side of the Third street railway crossing. It is the youngest lumber firm in the city, the members being F. T. Parsons, who from 1852

to 1867 was engaged in banking business, Mr. George Lindler, for eighteen years foreman of the lumber yard of Gilbert, Hedge & Co., and Mr. N. R. Derby. The business, however, dates back for its foundation many years before the forming of this copartnership, back nearly twenty years, when Olmstead & Mc Ewen incorporated the lumber business with their their planing mill. Since then, through various changes and successions the business has come down until it is in the best possible hands, that are rapidly developing it to its highest capacity, and extending its operations into wider fields than it has ever before reached. Mr. Parsons has had about eight years experience in the lumber business, while his long years of service in the bank, in responsible positions, gave him that thorough and perfect business education which such an occupation imparts, and which is of inestimable value in every business. Mr. Lindler has had a great many years of practical experience in the business, and with Mr. Derby's abilities, the firm has in it all the elements of success.

They have, despite the well established competition established around them, succeeded in obtaining to a very great extent control of the local trade, and to this branch of the lumber business they give their greatest attention. By fair dealing, filling orders with such stock as has in every case given entire satisfaction, they retain every hold upon the local trade, and their retail customers never go elsewhere for what they want. No firm in the city has acquired a higher reputation in the trade and among retail buyers for honesty and fairness, and on this solid basis their business will stand secure, and cannot help but prosper, as indeed, its present great and growing popularity attests.

#### THE BUSINESS THIS SEASON.

During the past summer F. T.

Parsons & Co., have handled seven million feet of lumber, one-half million lath, and about three million shingles. They carry a large stock of doors, well finished and keyed up; mouldings, battens, palings, window sash, sawed and split fence posts, palings dressed and common.

They employ from thirty to forty men and from ten to twelve teams. Their river work for this season is pretty well closed up, and another week or ten days will see all their lumber out of the water.

#### FRANK MILLARD & CO.,

are carrying at the present time a stock of over nine million feet of lumber, besides the usual amount of lath and shingles. During the season just closed they have already handled nineteen million three hundred thousand feet of lumber, and expect to handle about twenty million by the close of the season. They have handled five million two hundred and thirty thousand lath, and nine million five hundred thousand shingles. They employ from eighty to ninety men. Most of their lumber is bought of the Eau Claire Lumber Company. Their trade extends over the Burlington and Missouri River railway and its branches, over the Chicago, Burlington and Quincy as far as Galesburg, and over the Toledo, Peoria and Warsaw railway. To the west, their shipments reach as far as Fort Kearney.

#### AMONG THE SAWS—DICKIE'S MILL.

Among the manufacturers of lumber in the city, J. Dickie & Co., hold a prominent place. Their mill is located just below the railroad bridge under the aristocratic shadow of "Prospect Bluff," and presents the busiest aspect it is possible to conceive. In the whirr and racket of the "buzz" saws, which make a noise wicked enough to stand a bashful man's hair on end, the employes, who seem fairly crowded in the mill, move around at their tasks with a celerity only excelled by the great

fifty-six inch saw, which is said to be the fastest in the state, and chews up logs faster than we can write about it. This mill employs seventy-seven men and has three improved shingle machines, lath machines, edgers, &c. The entire establishment cost \$25,000. During the year the mill generally consumes upwards of six or seven million feet of logs. During this season the firm has sold 3,271,341 feet of lumber, 6,869,000 lath and 1,198,000 shingles. And up to date they have manufactured 3,460,464 feet of lumber, 1,482,000 lath, and 9,452,000 shingles. They have bought, thus far, 5,463,123 feet of logs. The engine of the mill is 120-horse power, and the sawdust is the only fuel used in the furnaces. The business of the establishment is very large. Their specialty is the manufacture of dimension lumber, and the bulk of their trade is west and southwest. Recently they shipped two car-loads of bridge timber to Baxter Springs, Indian Territory, a long way for even Burlington enterprise to reach.

#### BERRY & CO.

The office and mills of this firm are located just above the railroad bridge corner of South and Water streets. The mill was established sixteen years ago, and had done a driving and steadily increasing business ever since. It is supplied with two fifty-two inch rotary saws, one gang of saws, a Lowe shingle machine, lath mill, edgers, &c. The total sawing capacity of the mill is from three thousand five hundred to four thousand feet with about twenty thousand shingle and ten thousand lath. The mill annually manufactures into lumber seven million feet of logs. Berry & Co., own the raft boat Prescott and do all their own towing in the season. The mill gives employment to eighty hands, and its pay roll for the year is \$30,000. The trade of the mill is extended pretty well to the south, though they make also

very heavy shipments west. A great deal of work is done in bridge and railway timbers and for car purposes. A large portion of the products of this mill is sent into other markets, but a large stock is always kept on hand for the local trade.

The mill and machinery cost about \$40,000, and the protection of this valuable property from fire is most perfect, a powerful force pump, with pipes, fire plugs and hose complete, supplying the mill with a fire department of its own, independent of the Burlington water works.

#### COOK & CO'S SHINGLE MILL.

There need not be a leaky roof in America, while there is a shingle mill in Burlington with a capacity for covering every tenement that needs a roof in the republic. Wm. E. Cook and Mr. R. H. Lippincott are the members of this firm, whose shingles are known and used as a standard article by dealers throughout the west and south, and indeed to considerable distances to the east, for the shingles from this mill make successful headway against all competition. Mr. Cook is a gentleman of extended practical experience in this business, and Mr. Lippincott brings into the firm that infusion of young blood and energy which gives life and stamina to every business. No manufacturing establishment in Burlington has been more successful, or better deserved to be.

The mill runs four shingle machines, with a capacity of one hundred and fifty thousand per day, and manufactured this year twenty million shingles. It employs sixty-five men, and pays out \$1,500 per month on its pay roll.

About a year ago, a new department was added to the mill and a new enterprise set on foot, a factory for the manufacture of a patent double stave barrel. A building, 32x60 feet, and two stories high, was erected, and has a capacity of turning out 1,500 barrels per day, em-

ploying 100 hundred hands. The barrels are principally made of elm and willow wood. They are to be used as dry barrels, for flour, etc., but answer for fruit. Everything about it, staves, hoops, and heads is made by machinery, and it is rapidly superceding the old barrel, being stronger, more durable, and tighter, and better in all respects. The logs used are procured about ten miles up the river, and about 15,000 a year are made up into barrels. The enterprise is young yet, but has already proved itself a success.

FINALLY,

we have been compelled to give very hasty and imperfect sketches of the foregoing establishments, and one large manufacturing firm we have been compelled to omit altogether. But superficial as this sketch is, it is sufficient to give a slight idea of the magnitude of our lumber interests and to show how much the city's commercial importance and standing is indebted to the gentlemen whose business we have so hastily reviewed. —*Burlington Hawkeye.*

**THE FORESTS OF FRANCE.**—The total extent of wooded territory in France is about 9,035,366 hectares (nearly two and a half million acres,) or about one-sixth of the entire territory of the State. Of this total, 7,976,982 hectares belong to private individuals, public establishments, and communes, the remaining 1,058,384 hectares are the property of the State. The communal woods yield an average revenue of 52,500,000 francs, those of the State 43,000,000. The annual produce of the forests belonging to individuals and public establishments, is valued at over 62,000,000 francs. So that the total value of the forest products of France is at least 157,500,000 francs (£7,100,000) per annum.

THE SHAWANO EXTENSION OF THE MILWAUKEE & NORTHERN RAILROAD.

No place in northern Wisconsin is more in need of a railroad than Shawano county. A railroad from Green Bay, running through this county to Wausau, in Marathon county, would open up a tract of country that for farming purposes cannot be excelled in northern Wisconsin. The country through which the road would pass abounds in all kinds of hardwood timber, such as oak, maple, rock elm, birch and bird's eye maple, besides a large amount of pine. There is unlimited water-power on the different branches of the Embarrass river, and all that is lacking to make Shawano county a manufacturing county is a railroad. There is no doubt but the road would have been built this year but for the stringency of the money market, and there is not the least doubt but that the road will be built next summer, if the Boards of Supervisors of Swawano and Brown counties extend the time for its completion until January, 1876; and it is the duty of the county board of this county to do that. Nothing is ever going to make us a great and prosperous county until we have railroad communication with the outside world, and we hope every member of the Board will do their duty, and extend the time.

The following, from the *Green Bay Advocate*, shows that the company are in earnest in the matter:

"We need not apologize for often alluding to this subject, which is of such importance to this region. A railroad to Shawano, besides being of such great advantage to that undeveloped region, would not be excelled by any other road in its benefits to Green Bay, Fort Howard, and indeed the whole county. The boards of supervisors, which meet in Brown and Shawano counties next week, should not fail in attending to the matter, and extending the time for another year in which the road may

be built and receive the benefits of the aid voted by these two counties. There is every reason to believe that it would have been accomplished during the past summer, but for the severe money pressure which has followed the panic of last fall, and for the effects of the Potter law, which have paralyzed all building of new railroad lines.

Of the work already done on this line, and which shows the earnestness which the northern company has shown in building of this extension, we may mention the new and fine bridge across Fox River, at a cost of some \$20,000. The company has also procured ample river front, with which connections have already been made with the C. & N. W., the G. B. & M., and the Wisconsin Central. Between here and Shawano, the right of way has been secured for nearly the entire distance, and a large amount of clearing and grubbing has been done. We have no means of knowing the precise sum which has been expended, but it is safe to put it at least \$50,000. We understand that the northern company is still desirous of completing this section, and will ask the two counties to extend the time for another year in which it may be entitled to the amount voted by the two counties. There can be but one voice as to extending the time."

The *Oshkosh Northwestern*, in summing up the work of the Fox and Wisconsin Rivers Improvement Convention, says that one advance step has been taken in the appointment of a committee to watch the progress of the work and appeal, when advisable, directly to the war department. The question of success is now in the hands of the president, who can secure it by appointing business men, and men interested in navigation on the executive committee, leaving the politicians to serve their country in some other manner

#### MACHINERY MANUFACTURERS.

**Reliance Works, Milwaukee, Wis., E. P. Allis & Co., Manufacturers of Steam Engines, Saw-Mills and Pipe Work.**

The *Lumber Gazette* gives this description of one of the most extensive establishments of its kind in the country :

These works are the outgrowth of a consolidation of two or three small establishments of some 25 years standing which came into the hands of the present proprietors in 1861. They at present cover six acres of ground, with ample facilities for transacting the business of the firm as founders and machinists, and in the various branches of iron manufacture melt about 10,000 tons of pig iron per annum.

Among their specialties are steam engines, which they build of numerous patterns and sizes. They are builders of the pumping engine of the Milwaukee water works, having a capacity for lifting 16,000,000 gallons per day, 130 feet, the large cylinder being five feet diameter by ten feet stroke.

They manufacture machinery for grist and saw-mills very largely, their orders in this line extending throughout the northwest; also cast iron steam boilers and radiators for heating apparatus.

Connected with the works is a foundry for casting water and gas pipes, with a capacity for melting about 4,590 tons of iron per annum.

Included in their equipment are 18 power iron lathes, two hand lathes, four wood lathes, seven iron planers, two gig-saws, two shaping machines, one slatting machine, eight stationary and two portable drill machines, two iron boring mills, one cutting machine, three bolt cutters, one iron punch, two steam hammers, two steam cranes, 15 hand power cranes, one 20 ton traveling crane, four rotary blowers, five cupolas, five boilers, five steam engines.

They have recently filled an order from the Japanese government for a complete flouring mill, together with all the line shafting and pulleys necessary to run the model machinery hall, built by the government. They also have notice that the Mikado of Japan has accepted their drafts and drawings for model gang and circular mills in competition with the world, and that the order to build and forward the complete saw-mill and machinery is in transit. The draft the mills was drawn by Mr. G. M. Hinkley.

They are also bringing out a gang edger that embodies many new and useful points that are essential to the success of the gang edger, but have been overlooked by the gang edger, builders. Among the points attained is taking off the saws to file, or slipping on other saws at once, that are already filed up, in case of accident; and for the purpose of filing the saws, they can be changed so readily that no sawyer will file the saw on the arbor. Their arrangements for making perfectly parallel lumber of any width desired are as near perfection as it is possible to attain.

Mr. E. P. Allis is also President and half owner of the International Pipe Company, of Chicago, that melts 7,000 tons of iron per annum, doing a much more extensive pipe business in Chicago than in Milwaukee.

We have the pleasure of laying before the readers of the *Gazette* a cut and full description of Messrs. E. P. Allis & Co's new saw-mill.

This mill has iron saw frame, 10 inches deep, and heavily flanged top and bottom. The feed is belted from tail of arbor and gig, driven by the tight side of main belt, working on a 30-inch pulley. The pinion shaft is driven by a 30-inch friction pulley, with 12-inch face and solid web center, turned all over, and is worked between the feed and gig paper frictions—which are 12 inch diameter and 13 inch face—by means

of an eccentric box operated through levers by the sawyer. These paper friction pulleys are so arranged as to be raised or lowered with ease, as may be necessary to secure perfect adjustment. The arbors are of steel, the lower being one inch diameter and the upper one two and one-half inch diameter. There is a tightener-frame and pulley hinged to frame, for tightening belt to upper arbor. The lower arbor has three 12-inch bearings, with improved self-oiling boxes. The upper works are of a new and improved style, and we think superior any other in use. A heavy arched iron-frame is bolted firmly to saw frame. The arbor works in a hollow arched sleeve, having three 8-inch bearings, with pulleys between the standards. The sleeve, with arbor, is adjustable by screws in every direction, so as to be put and kept in perfect line with lower saw. The saw-frame, with upper works and pulleys complete, without saws, weighs ten thousand pounds.

The carriage is 24 feet long, with two head-blocks; but by means of new rigid coupling can be put together in sections and made any length desired, and wish any number of head-blocks.

They are what are known in Wisconsin as the Eau Claire Head Block, improved by Mr. G. M. Hinkley, and are the most perfect in use. By means of a variable scale the "setter" can take off the slab so that the last board will be perfect in thickness. By means of one set lever either of the head blocks can be run ahead of the other as far as desired, or both knees can be thrown forward simultaneously and accurately. The principle is very simple and mechanical. Every movement is positive. Lumber or timber can be sawn to any particular part of an inch desired without change of packs, making lumber scant or plump thickness according as the logs are "clear" or "common."



The jack-heads are worked by cast steel rack and pinion, so made as to take up any lost motion should the steel wear; or they can be replaced at any time at a slight expense. The jack-heads and head-blocks are faced with steel plate, which can also be renewed at a slight expense. The set-shaft is three inch diameter, as are all the shafts in the mill. On the set-shaft there is a steel ratchet 18 inches diameter. The index wheel is geared to set-shaft with fine, cut wrought iron gears, and as the jack-heads move towards the saw the index wheel turns toward the setters, showing on its figured face the exact distance of jack-heads from saw at any point. This may be measured on quadrant by means of pins. The jack-heads are run back, ready to receive the next log, while the carriage is gidding, by means of friction gearing to truck shaft, and operated by the setter placing his foot on a lever for the purpose. The dogs are automatic in their movement, and worked with a lever, no mallet being required on the carriage. There are two sets of dogs—one on the flat and the other for round logs. The mill is designed for doing the most rapid and accurate work, and we hope it will meet with the favor it deserves.

This mill has been got up under the careful supervision of Mr. G. M. Hinkley, well-known as one of the best saw-mill men in the country, and the inventor of several important and popular machines used in the lumber business; and are fitted with his newly invented saw guide, that enables the sawyer to simply throw back the guide to be out of the way in changing saws, and by a very simple movement both jaws of the guide move together or either jaw moves back and forth as far as desired, dispensing entirely with the danger that sawyers have been subject to with the old guide.

This saw guide is also manufactured by Messrs. Smalley Bro. & Co., Bay City, and the Phoenix Iron

Works, Port Huron, Mich. It meets with great favor among mill men.

#### SHRINKING OF SEASONED TIMBER.

The various kinds of oak, and some other kinds of valuable timber, will shrink more or less every time the surface is dressed off even a small fraction of an inch. Wheelwrights, accustomed to work in oak, are well aware of this fact, and a correct appreciation of it often enables them to turn out work of a superior character, even of ordinary materials, by first blocking out the pieces roughly, then allowing the timber to season, and afterwards working the various parts by degrees, as the seasoning process becomes more and more complete. White oak spoke timber, for example, may be allowed to remain in rough state for half a score of years, under shelter, without becoming seasoned so thoroughly that the timber will not shrink after the spokes have been dressed out.

Carriage-wheels have often been made of the choicest quality of oak timber after every spoke had been seasoned for several years, and, to the great surprise of the wheelwright, every spoke would work in the joint before the vehicle had run three months. The effect in such instances could not be attributed to superior timber, nor to perfunctory workmanship; but simply to this one circumstance—that the parts of the wheels were put together before the timber had ceased to shrink.

To prove that the best quality of oak will shrink, after a spoke has been dressed out, let a tenon be made on one end, and be driven immediately into a mortise; after a few days' exposure in a warm workshop, the spoke may be withdrawn with little difficulty. The same fact will hold good in the manufacture of wood-work of any kind where oak is employed for tenons. In order to make joints that will never start, the piece on which the tenons are to be made

should be dressed over several times, until the shrinkage has ceased. Then let the tenons be made should. After these have shrunk, while exposed to the drying influences of a warm workshop, the spokes, or other parts, may be driven into their respective places, with the assurance (especially if they are dipped in oil paint previous to driving) that the timber will shrink no more.

Many kinds of farming implements, in the manufacture of which oak and ash are employed, render very unsatisfactory service, simply because the seasoned timber was not allowed to shrink before the tenons were driven into the mortises. In like manner, oak chairs, and other oak furniture, will frequently shrink to such an extent that the pommels, rungs, dowelpins and banisters will all work loose, if the precaution we have described is not observed—*American Builder.*

#### THE WEST WISCONSIN LUMBERMEN. I

The Eau Claire *Free Press* says in regard to logging operations in the western part of the State:

The policy advised at the Saginaw Lumbermen's Convention, is, so far as we can learn, rather favorably endorsed by the manufacturers of this valley. We are also advised that the Mississippi Logging Company, will curtail their business accordingly this winter, with the manufacturers. We are unadvised, however, as to the proposed operations of the many loggers, who depend upon the manufacturer for the sale of their timber. Should they continue to put in the usual amount of logs, they will certainly be at the mercy of the manufacturers, who will, owing to the curtailing of manufacturing, be able to obtain these logs from an overstocked market, at their own figures. This fact should be most apparent to the logger of average business sagacity, and those who contemplate operating

in the woods this winter, ought to make their contract for their stock before going in, or they will find themselves in a most embarrassed condition in the spring, with a stock of logs greatly in excess of the demand, with no chance of sale, except at ruinous prices.

#### LUMBER IN MISSISSIPPI.

A glance at the map of Mississippi will show that a large part of the state is drained by the Pascagoula river and its tributaries. Dog river empties into the Pascagoula about ten miles above the Gulf, and reaching up into the state of Alabama some three or four hundred miles. About one hundred and twenty miles above its mouth the Pascagoula branches into the Chickasawhay and Laef rivers, both of which extend some three hundred miles into the interior. It is computed that the Pascagoula and its tributaries furnish thirteen hundred miles of navigable waters, which is, of course, every where available for rafts, and lined with inexhaustible forests of pine, cypress, etc. So very well known are the advantages of the Pascagoula region for the lumber trade, that since the war, notwithstanding the general depression of business, more than twenty saw-mills have been erected near the mouth of the Pascagoula. They are mostly of large size, and capable of furnishing a million feet of lumber a week. During the past year a large and lucrative trade with foreign ports has sprung up, which bids fair to become permanent and to enlarge immeasurably. Where the vessels of 500 or 600 tons burden can come within three or four miles of the shore, in a perfectly sheltered roadstead, and when the finest description of logs can be furnished to the mills at \$5 per thousand feet, it is evident that there must exist the best possible facilities and advantages, possessed by no other port on the Gulf or the Atlantic coast, and

which have commenced to engage the attention of many capitalists and business men. Three-fourths of the pine lumber now shipped to New Orleans come out of the Pascagoula river; immense quantities are shipped to northern ports, England, the West Indies, Mexico and South America.

It is well known that the best lumber regions of the northwest are fast being deprived of their forests. The lumber supply from Maine is in rapid process of exhaustion. New York has to get much of her lumber from remote regions. Canada, Michigan, Wisconsin and Minnesota cannot long sustain the drain upon them for the enormous demands for lumber in the great west.

We have on the Pascagoula and its tributaries an inexhaustible supply of lumber, enough to fill all demands for a century to come, not only of heart-pine lumber, but also of cypress, oak of various kinds, ash, gum, hickory, poplar, walnut and cedar; moreover the hard pine lumber is at least a hundred per cent. more valuable for many uses, than the soft pine and spruce of the northern forests.

Spars have been shipped for the last thirty years from the Pascagoula region to England, France and Spain. A single piece, ninety-two feet long and a foot square at the upper end, is said to have been shipped from this country.

These enormous tracts of pine woods, which can now be bought for a trifle, will soon be sought for as a profitable investment. There are admirable locations for at least a hundred saw-mills within twenty miles of the mouth of the Pascagoula river, which can now be had for a few dollars, but which, in a short time, will command large sums of money; and they are sure to come to demand.

There are also admirable localities for shingle making, for portable houses and sash and blind factories;

for factories of any and every article made out of wood.

There is no finer locality for ship building in the country—there being plenty of live oaks along the rivers. The few yards where small class vessels are now built, ought to be enlarged into a score of important establishments.

In addition to the lumber interest, the resources of Jackson county, in turpentine, rosin, tar, charcoal and fuel, are immense, and yet scarcely developed. In no other part of the south can naval stores of every description be produced more economically or in greater abundance; and from no other river in the south are there such excellent opportunities for shipment to other parts, either foreign or domestic. Easy and profitable employment can be given to a large population, and an immense impetus is sure to be given soon to this healthful and lucrative branch of business.

#### CAUSES OF THE DIFFERENT QUALITIES OF WOOD.

Mr. R. Brown, in his new "Manual of Botany," just published, in a summary of the causes of the different qualities of wood, shows that these differences must be referred to—first, the existence of vessels which are wanting in all true coniferæ, but exist in "joint firs" and in all foliaceous trees; second, the disposition, length, and size of the medullary rays, which are scarcely visible in coniferæ, and hardly more so in willow, poplar, elder, birch, hazel, and horse-chestnut trees; third, the presence or absence of cells or lacunæ containing resin, found so abundantly in most coniferæ, lacunæ being found chiefly in the firs, while cells containing this substance are more characteristic of the cypresses and yews; and fourth, the presence of a woody parenchyma, containing starch or other analogous products. The hardness or the weight of wood depends on the structure and de-

velopment of its tissues. The differences in the definition of annual growth in various trees is also noteworthy. In oaks and chestnuts the out limit of each year's growth is sharply defined by the layers of large dotted ducts, the open mouths of which can easily be seen in a transverse section. In other trees, such as maple, where the ducts are not so large, and are scattered, and in trees where there are no ducts at all, but only punctated tissue, the annual growth is defined by layers of minute and laterally-flattened wood cells, which form as the vital efforts get feeble, towards the end of the growing season.

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#### THE LOG LIEN LAW.

*From the Chippewa Herald.*

After the thorough manner in which the log lien law was discussed last spring, we did not believe any one would attempt to misrepresent the amendment which was introduced in the Legislature by Senator Graham, of Eau Claire, and which was approved by the Committee, of which Mr. Carmichael was chairman.

The original lien law is still in full force and effect. Here is the only amendment which has been made to it:

"In all suits or actions, under the provisions of this act, the person, company or corporation liable for the payment of such debt or claim, and the owner or owners of such logs, if known, and if not known, then the persons or person whose recorded log marks are upon such logs, shall be made defendants."

The effect of this amendment is to strengthen the claim any one may have for labor, because if the logs happen to be out of reach, or sawed up, the one who purchased the logs are made parties to the suit, in addition to the logger. There is no trouble in complying with the amendment. If the owner of the logs is

not known, all there is to do is to step into the lumber inspectors office and find out who own the recorded mark. The original lien law of Chippewa county was drawn by Gen. Hollor Richardson, in 1860, and introduced by Rodman Palmer, in the Legislature. It has remained in force ever since, and the author of that bill, together with all who have candidly examined the amendment, concede that it makes the law better for the laboring man, while it furnishes to an innocent purchaser of logs information of the claim, which is certainly nothing but fair and just. No man—we care not whether he be a laboring man or capitalist—would like to have his property seized and sold without his knowledge. Making him a party to a lien suit does not weaken the owner of the lien; on the contrary it strengthens him, because it adds responsibility to the claim, in case any accident should happen to the logs by floods, etc.; and it also furnishes to the log purchaser an opportunity of knowing what is being done against his property.

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Of Oshkosh operations for winter work in the pinery, a dispatch says: Notwithstanding the dullness of the lumber prospect, the Oshkosh lumbermen have begun to prepare the lay-out for the coming winter's operations. The first gang of men have just gone into the woods, and others are organizing to start on Monday. Messrs. Rich & Stillman, of Omro, have sent out a gang under James Hamilton, to remain during the winter, and Bray & Choat, of this place, have sent out another under Geo. Gilkie. Their camps are far up the Little Wolf, about the middle belt of Oconto county.

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L. S. Beecher, Esq., arrived this week, and is collecting his forces for the winter's campaign on the Upper Wolf. He appears as fresh as ever.  
—*Shawano County Journal.*

## BETTER MANUFACTURE.

An exchange says :

Never before in the history of the pine lumber trade was the importance of good manufacture so constantly and unmistakably shown as it has been during the season just closing. Buyers have been scarce, and those in the market have added to their disposition to scrutinize rates closely, a habit of looking at quality of stock and the merits of manufacture with a pertinacity and a discrimination which have not heretofore been observable. If the demand for lumber exceeded the supply by a third or more, manufacturers might be careless of their work and not suffer much by it. But when the conditions are reversed, it is very soon evident that the best manufacture has all the chances worth having. Excellence of manufacture becomes in such times a matter, not of pride merely, but of dollars and cents, and often of success or failure of the season's operations.

During the present season the facts above mentioned have pressed themselves upon the attention of mill men with unremitting persistency. Imperfect and irregular sawing has been punished as it never has been before, and the value of improvements in mill machinery in the direction of better manufacture has been shown to be at least as great as in the way of economy of labor and time. The whole process of manufacturing lumber has advanced toward finer and more perfect methods, and the field of the inventor and machinist, instead of being filled by the multitude of new devices which have appeared during the last few years, appears to be rather enlarged than otherwise.

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## BIG TREES.

The largest and oldest trees in the world are the Baobobs of Africa and Australia. There are two species—the *Adansonia gregoric*, which is peculiar to Australia, and the *Adansonia digitata*, which abounds in West and South Africa. The trees do not rise to an excessive height, but attain an enormous circumference. Several have been measured which had a girth of from 70 to 77 feet. A few feet from the ground, the main trunk gives off immense branches, which extend horizontally from 50 to 100 feet. The entire tree has the appearance of a perfect hemisphere—sometimes being 100 feet in height and 150 in circumference. A group of these trees crowning their headlands, gives name to the Cape de Verde Islands—"Green Cape."

The Baobob does not attain its full growth until it is 800 years old. Adanson, the botanist after whom the genus was named by Linnæus, calculated the age of the trees by an inscription which he discovered in the bark of one on the Cape de Verde Islands. The inscription was cut in the fifteenth century, and 300 layers of wood had grown over it. Comparing the thickness of these with that of trees whose age was known, he arrived at an approximate knowledge of the age of different specimens. "He has found," says Humboldt, "for a diameter of about 30 feet, an age of 5,100 years." According to this, there are Baobabs from 5,000 to 6,000 years old—hoary patriarchs which were in their vigorous and lusty prime when the Pyramids were building.

The woolly leaves of the Baobab have from three to seven leaflets radiating from a common centre. They drop from the tree during the hot and dry summers of the tropical regions where they grow, but put forth again in the rainy season, which lasts from December to June. The flowers of the Baobab are white and very

large, somewhat resembling the mallows, and droop on stems a yard in length. The honey which the bees make from them is greatly esteemed by the Abyssinians for its perfume and flavor. The fruit of the African Baobab is of the size of citron, and is often called "monkey-bread." The shell passes in ripening from green to yellow and brown. The interior is filled with a spongy, juicy substance, of a pale-chocolate color. It is slightly acid and pleasant to the taste. The expressed juice mixed with sugar is highly valued as a beverage, being very refreshing and effectual in quenching thirst, and possessing medicinal qualities which render it a specific in putrid and pestilential fevers.

The Baobab is emollient and mucilaginous in all its parts. The Africans dry and reduce the leaves to powder, which they sprinkle upon their daily food, for the purpose of diminishing the excessive perspiration to which they are subject in a torrid climate. Europeans also find this powder useful in cases of diarrhea, fever, and other maladies. In Egypt, the dried pulp of the fruit is mixed with water and used in dysentery.

The Africans regard the Baobab with superstitious veneration; and well they may revere a tree which for century after century supplies them with food, and drink, and medicine. The hollow trunks of the trees are used as places of sepulture, of encampment, and as magazines. Some of them are so large as to admit 240 men in their inclosure.

The Australian Baobab is rarely found beyond 100 miles from the coast. It occurs most frequently on the Gleneig River. It flourishes best on level, sandy tracts. Its fruit is smaller than that of the African species, but is highly prized by the natives, who make great use of it. The German settlers on the Orange river call this fruit, from its acid taste, "Cream of Tartar."

#### RESISTANCE OF BEAMS TO FLEXURE.

From an abstract of a paper on Resistance of Materials, lately read by John S. Barnard, United States Engineer Corps, at the American Society of Civil Engineers, we gather some general results touching the value of the resistance to rupture by compression and extension in beams. The precise ratio of the elastic reactions under a given weight, or those of extension and compression, have not yet been definitely settled practically, and the question is raised, what reason is there for the universally accepted hypothesis that these reactions under a given weight are the same, even when the resistance of some materials to rupture is greater for compression than for tension, as cast iron, where it is three times greater for the former than the latter?

The author of this paper observes that the introduction into the known and ordinarily-received formulæ of two co-efficients, viz.: of resistance to rupture by compression and extension, instead of the single coefficient "resistance to flexure"—would not change in any degree the process of calculations adopted, while changing the results very considerably, and in a manner eminently useful. This mode of calculation involves a position of the neutral zone not situated at the centre of gravity of the section of the beam, as generally held by Navier and others. It is remarked no one can have use of the formulæ of Navier and those derived from it (which place the neutral zone so as to contain the centre of gravity, and adopt a single coefficient derived from the tensile strength alone) without seeing that inconsistent and unreliable results arise. Such formulæ are also founded upon the assumption of the constancy of the coefficient of elasticity under all degrees of strain, and also the assumption of the identity of that coefficient for compression and extension.

Now, from experiments, it appears

that the coefficient of extension varies from the limits of rupture to slight tensile strain. Taking wrought iron, its coefficient of extension near rupture is only 1-22d of that for slight tensile strain; and from experiments made by Mr. Barnard upon forged beams of 12 by 15 inches cross-section subjected to the action of the hydraulic press, the efficient of elasticity deduced varied from 9,558,000 to 1,482,000 lbs. in proportion as the beam was slightly deflected or bent to the point of rupture. Another similar beam broke with a flexure of one third of that the first had undergone. In both cases the calculated tensile strength was almost the same. By direct rupture, the results were 20 and 15 per cent. smaller.

As regards cast iron beams of identical dimensions, the observations made under experiments for these two extremes of flexure gave almost the same coefficients of elasticity. Through specimens in the testing machine showed a tensile strength of only two thirds that deduced from calculation founded on the results of flexure. These experiments show pretty conclusively that formulæ based upon a constant of elasticity for all degrees of strains are not borne out by facts, and also that two coefficients, one for compression and another for tension, are necessary, instead of one based upon an imaginary factor of elasticity.

Another remarkable fact, which confirms the hypothesis given by this paper, is the behavior of the forged beam under fracture. After rupture the transverse section of beam exhibited an alteration in its form, although perfectly rectangular and straight before the pressure was applied. It was three fourths of an inch narrower at the under side than at the top, and for about 12 inches the beam was bent to the curve of flexure. This change shows an alteration in the centre of gravity, and also that of the neutral zone; the

fracture was crystalline. Again, in experiments made upon an iron target for the front of a casement at Fort Monroe, consisting of 12 in. wrought iron plates, 4 ft. broad, each plate having at the back two vertical wrought iron beams, 12 by 15 in., stepped at top and bottom into masonry, a heavy shot cracked a beam in two, which was afterward subjected to hydraulic pressure, and deflected 3 in. before breaking. The beams broken by the impact of shot did not withstand the pressure which those did that were subjected to gradual pressure, and, further, there was no apparent "set," although the material was the best forged charcoal iron. This is sufficient to show that a sudden impact decreases the conditions necessary to resistance, which, under slow pressure, are more strongly developed. Barlow explained the discrepancy above alluded to between results of experiment and theory by a species of longitudinal flexure, though it may be fairly assumed that the centre of gravity and neutral axis do not coincide.

The conclusions here arrived at are not new, yet they are important in the construction of large works of iron. Alteration of internal structure caused by even small loads has been noticed by various experimentists; a permanent displacement of the molecules take place, and the elasticity in process of time becomes impaired. A cannon fired with a charge of powder producing a strain above the elastic force of the material (this strain varying from one fourth to two-fifths of that causing rupture) induces such a permanent alteration of structure that a single blow from a sledge hammer or another discharge will often break it to pieces. It is well known that alteration of internal structure is brought about in some materials by the influence of time alone. Thus the weight of a beam itself is every moment impairing its elasticity; and it may be a speculation unworthy of our greatest

physicists to venture a conjecture as to the probable duration of our great iron beams or tubular girders that now span our great rivers. Iron, however, is not alone in this contingency. Stone is exceedingly uncertain; and great masses of construction have been known to have given way suddenly after the lapse of a few centuries, and without apparent cause.

The inequality of the modull of extension and compression has been generally admitted by writers on the strength of materials, though the precision by mathematical hypothesis has tended to disregard the variation as also those experimental results which show the inconstancy of the elastic force under varying degrees of strain or flexure. That elastic reactions vary in proportion to the load, is generally assumed; though this has not been fully investigated with exactness. It is also admitted that the final resistances to instantaneous rupture produced by flexure, either by compression or extension, are identical with the resistances developed by direct compression or extension.

A beam having a triangular cross-section and supported at its extremities, deflects equally when placed either on its flat base or upon its vortex. The hypothesis of equality for the modull of compression and extension, explains this equal deflection, the neutral axis being regarded as the focus of the centres of gravity of the cross-sections. It is observed, however, by the writer of the paper referred to, that though this hypothesis harmonizes with the phenomenon observed, "it is not probably essential to its explanation."

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#### RELATIONS OF THE TANNER AND THE HEMLOCK LUMBERMAN.

When last we met, the relation of the tanner and the hemlock lumberman was briefly considered. This relation has new and increased interest, not more from the fact that at present hemlock lumber is selling for less than cost, than from the fact that such high cost is the result of the increased freight tariff enforced by our railroads. By the unfriendly action of the Pennsylvania state legislature the railroad and booming companies control so absolutely the hemlock lumber trade that it may with truth be said that they hold both tanners and lumbermen within their power. At the present time it is estimated that more than one hundred millions of feet of hemlock logs are rotting in the woods for want of a profitable market. This immense loss falls immediately on the tanners, but ultimately this loss must be divided with the lumberman and the owner of the soil. The tanner, by reason of his controlling interest, is made the pioneer of the enterprises through which the wilderness is made to give way to civilization, but it has been demonstrated over and again that he can make no healthy progress without the co-operation of the lumberman. Together they do indeed make the "wilderness blossom as the rose;" but, in less poetic language, they convert the bark and lumber into articles useful to various industries, hauling the soil over to the agriculturist, and by their joint labors cause villages and towns to rise and flourish.

To be a little more specific in the statement, then, I have to say that the tanner cannot afford alone to build his roads and sacrifice his lumber in Northern Pennsylvania, for there are tanning locations in other sections of the country, where these aids can be, and are, extended, so that while they last, the owner of hemlock lands in Pennsylvania must wait for long years to come before he



can realize, as he so much desires, from their sale. If circumstances force the sale of these lands, and compel their premature development, the whole loss falls upon the landowner, for, at present, he sells his lands at a nominal price. But in either case the real wealth of the states is frittered away. How long this ruinous policy is to prevail we may not know, but that it cannot continue without great detriment to all the interests here alluded to cannot be questioned.

The policy of erecting barriers upon the waterways of our state is most disastrous. In its consequences it reaches far beyond the immediate objects supposed to be affected. The cost of rafting hemlock logs, for illustration, from the headwaters of the Susquehanna to Havre de Grace, estimated at 400 miles, will probably cost \$1.50 per 1,000 feet, whereas the cost of the same by railroad would not be less than \$7 to \$8. Beside this disparity of results, the offal, such as pickets, laths, &c., made from the slabs, would, in case the logs were manufactured at tide water, probably more than pay the whole cost of the rafting. Moreover, when this lumber is conveyed by rail it must be seasoned, which necessitates much delay, loss of interest, insurance, &c., all of which is unnecessary if manufactured at tide water, for, in the latter case, the vessels load at the tail of the mill, and most of the lumber is sawed to order, and therefore delivered at once on being manufactured.

The increased demand which would result from the cheapening of this lumber in all the markets along our coast would greatly advantage lumber consumers as well as the manufacturers. The saving of six to eight dollars per thousand would, when properly distributed between the land owner, the tanner and the lumberman, make that trade reasonably remunerative, which for a few years past, in Northern Pennsylvania at

least, has been most disastrous, and, without relief, must be given up altogether.

HOW SHALL THIS RELIEF BE OBTAINED?

I assume that there are mills enough erected now to supply all the local trade, and by "local" I mean the inland and railroad trade, such points as can only be reached by rail. But the outside or foreign markets, such as now receive their supplies from Canada, and to a limited extent from Maine, will receive their supply from the mills of Havre de Grace or at the mouth of the Delaware. The great west and the south-west would take their supply from us at Pittsburgh or at the nearest point on the Alleghany, where the navigable waters commence and the river waters end.

Tanners and lumbermen should have the right of way to float their logs to tide waters on the east and to the navigable waters on the west, and no selfish power should stand in their way. The exercise of this power by these persons for these purposes would be serviceable to all classes of our people, and greatly add to the wealth and resources of the state. It should, therefore, be declared the public policy of the state to favor the use of these streams for this purpose, and the legislature should in imitation of the state of Maine, charter and empower the log-driving companies to possess and use these streams at certain seasons of the year, and under proper restrictions, for the ends and purposes indicated.

HOW WILL THIS POLICY AFFECT THE RAILROAD INTERESTS OF THE STATE?

It is at present an open question whether the railroads traversing the northern counties of Pennsylvania can afford to carry hemlock lumber to Philadelphia, Baltimore or New York at such rate per ton as will be sufficiently remunerative to them, and at the same time compensate the lumberman. Hemlock lumber is so cheap—that is, the price is usually so

low—that it will not pay cost of production, with four hundred miles of railroad transportation added. If this should be the conclusion reached after mature trial, what then must be done? Either this lumber must be allowed to rot in the woods, or these public water ways must be used to convey the logs to a market having immediate access to navigable waters.

The railroad interests of the state, important as they are, should not and must not be allowed to stand in the way of this needed reform. If these roads cannot profitably, either to themselves or others, do this service, then why should they be allowed to dam our streams and obstruct our means of wealth? If the railroads determine that they can do this trade, if they can control and appropriate all the profits resulting, then the practical question will suggest itself whether lumbermen can be found who will spend their capital and labor to thus serve these public corporations?

These railroads are now successfully carrying the pine lumber to mutual advantage. Why should they not continue this service? Without doubt the better qualities of pine will bear the cost of transportation by rail, and for long years in the future such service will continue, and even increase. It is very doubtful, however, whether the owners of valuable pine logs would trust them to float four hundred miles, subject to the risk of loss and damage from contact with the coarse and inexpensive hemlock. But whether this should be the result or not, it may be fairly insisted that both the interest and policy of the state demand the use of the least expensive method to market the produce of the state.

Does the state of New York place disabilities upon the free use of the Hudson to suit the railroad running on its bank? It is true that the state has placed restrictions on the great Central Railroad to protect a parallel

canal run in the interest of the state, but so incongruous and absurd is this attempt that at a very early day it is in contemplation to repeal the restriction.

The erection of a boom at Williamsport, accompanied as that act was by legislation which practically annuls the right in the property of logs when found below that charmed spot, is so outrageous, so violative of all the recognized principles which govern the water highways of the country, that I cannot believe that the objectionable features of that act will be permitted much longer to disgrace the statute book of Pennsylvania.

But after this objectionable obstruction is removed, or confined to its legitimate service of storing and holding logs for the owners of mills at Williamsport, there will remain much for the legislature to do before an equitable and natural adaptation of the waters leaping to the ocean can be secured, consistent with the rights of all the citizens.

Before any conclusion on this subject is reached, the legislation of Canada and of the state of Maine should be thoroughly examined. We must only ask for that which is reasonable; we must ask no privilege for ourselves that we are not willing to record to all others; we must deprive no man of his just rights, and take no man's property except for a public purpose, and only then after just compensation. In short, in demanding justice from others, we must commit no wrong ourselves.

This whole subject is surrounded with difficulties, and its consideration should be approached with a patriotic desire, placing the interest and policy of the state, with regard to its water courses, upon an enduring foundation—a foundation which while it will add to the wealth of its citizens, may redound to the honor of the state, and stand for all time as a monument to the enlightened

wisdom of its legislators.—*Boston Shoe and Leather Reporter.*

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#### THE GREEN BAY SHORE.

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The Green Bay district, with its conveniences for transportation and its many fine rivers, the head waters of which are in the midst of heavy pine forests, giving ready means of floating, is very desirable as a lumbering locality.

The shores of the Bay are low, and gradually change from marsh to swamp, then to level dry sand and finally become broken and almost mountainous. The pine is in dense groves that crowd closely upon the swamps that skirt the bay, and reach far back among the hills and valleys of the interior. There is considerable hard timber in this tract, in separate bodies, interspersed quite liberally with soft pine.

The rivers of Green Bay are nine, namely: the Escanaba, Cedar, Menominee, Peshtigo, Oconto, Pensaukee, Little Suamico, Big Suamico and the Fox. But little lumbering is done on the Escanaba and Cedar rivers; they are more mining districts. The Menominee is by far the largest lumbering river, that empties into the bay; its tributaries are numerous, and furnish floating for a large section of country. The logs on this stream are worked up at the three villages at its mouth; Menominee Michigan, on the north bank, and Marinette and Minnekaune, Wisconsin, on the south. The aggregate number of mills are eleven, one of which manufactures shingles, exclusively, and one other has not been running this season. The mouth of the river is being dredged, but this cannot be carried on to a great distance up the river, on account of the cropping out of the rock over which are the rapids about a mile from the bay; however below this, in the several channels that cut through a large marsh, and upon which are

located the mills, is sufficient room for dockage, and will, undoubtedly, at no distant day be made one of the finest harbors on Green Bay.

The main boom is just above the rapids; a dam is thrown across the river here which sets the water back a long distance, and gives a large area of comparatively still water. To divide the pressure of the immense weight of logs, piers and lines of spiles are set at short distances over the pond. The river is the only limit of the capacity of this boom. At the commencement of the season last spring, there was in the river and private booms, 130,000,000 feet of logs—114,251,622 feet of these were last winter's crop.

The Peshtigo with its source in the vicinity of the headwaters of the southern tributaries of the Menominee takes a course nearly parallel with its larger sister, and joins the Green Bay about ten miles south. Piers are extended into the bay here, making a very good harbor. Lumber is loaded upon vessels direct from the docks. The Peshtigo is a fair stream for logging, but it could be decidedly improved, and that too by not an extravagant expense. The quality of the timber is a good average. The amount of logs in the river, last spring, was 45,000,000 feet, 15,000,000 feet of these are hung up this fall.

The Oconto as a driving stream will compare favorably with the Peshtigo. A clean drive was made this season, and if the improvements are put on, that are being agitated for holding back the surplus water until needed, it will equal any of the Green Bay rivers for driving. The quality of pine here is better than on the lower streams. There are nine mills on this river; the amount of logs on hand last spring, was 80,000,000 feet. The lumber is floated in rafts and lighters to the vessels, which are anchored out, on account of the low depth of water over the bar.

Pensaukee river has but one mill

and that is at the mouth. The amount of logs last spring, was 17,000,000 feet. Vessels here are anchored out and loaded by lighters.

The Little and Big Suamico rivers are small streams, with their courses in the southern borders of the pines of eastern Wisconsin. The quality of lumber is fair and the amount of logs on hand in both, at the commencement of last season, was 34,000,000 feet.

The Fox proper is not a lumber river, being wholly south of the pines. The Wolf, however, its main northern branch, is especially noted for the amount and fine quality of its lumber, and is classed as one of the lumber districts of the state, of which we will speak hereafter.

Green Bay City, Fort Howard and Depere, at the mouth of the Fox, cannot be considered really lumber manufacturing towns, although there are several mills in and around these cities, but their supply of logs depends on the immediate locality which was never heavy with pine, although the forests of hard timber are quite extensive and at no distant day their value will be duly appreciated, and in fact, attention is now being directed to it, and several mills are engaged in working it up.

The lumbering on the Peninsula or east shore of the bay, is not extensive; probably 30,000,000 feet would cover the entire business done this year. The quality of pine is inferior to the west side; this is partly owing to the fact that the lands have been run over and the better grades taken off. The standing pine will fall short of 100,000,000 feet. The Oneida Indians have a reservation of ten miles square commencing a few miles west of Ft. Howard; this is finely timbered with hard wood interspersed with scattering pine. The Indians have a few mills, and are working up some of the timber. The Green Bay and Minnesota railroad crosses the reservation, and has given quite an impetus to the industry of the tribe.

There are many fine farms under cultivation, with comfortable buildings, showing an enterprise that is truly encouraging to those who hope for the civilization of benighted Lo.

The Chicago and Northwestern railroad is now in operation to Marquette, Michigan. Its line is along the Green Bay shore from Green Bay city to Escanaba and thence across the Peninsula to Marquette. The above towns mentioned in this article are all accommodated by this road. The yards and mills are generally furnished with side tracks, and several firms season their lumber and ship almost wholly by rail.

The total amount of value of property in mills, dockage, tugs, scows, real estate, (including pine lands,) teams, camp equipage and other property employed in the manufacture of lumber in the Green Bay district may be safely estimated at \$15,000,000. The whole number of mills, are 45; eight of these have not been operated this season.

The above includes the small rivers Ford, Clear, Dry, and Monisticue.

One important branch of commerce is the cedar which is liberally distributed over the whole Green Bay district. It is cut into posts and has become an important item in trade. Alternating with pine are beautiful maple and hard wood ridges with rich soils which have every quality of excellent farming lands. The streams are all rapid with frequent opportunity for power. The water is clear and cold and in the upper streams the speckled trout is found in abundance. The forests abound in game of almost every variety; and the sportsman can "lie low for ducks," or tower majestically over his slaughtered bruin. Deer are plenty and venison and bear meat are permanent on the bills of fare.

Improvements are being made and business rapidly crowding among the pines. The towns show enterprise and thrift, and we can in many respects, bespeak a prosperous future

for the Green Bay district.—*North-western Lumberman.*

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#### THE USE OF TIMBER IN MECHANICAL WORK.

Mr. J. G. Lynde, C. E. Borough Surveyor, during the course of his recent presidential address to the members of the Manchester Scientific and Mechanical Society, dwelt at some length on the use of timber in connection with mechanical work, both with regard to pattern making in relation to the erection and removal of heavy machinery. The proper relation and use of timber, he observed, was a matter in which they were all more or less interested, and if they would permit him, he would offer a few observations on the subject based on his own experience. For all ordinary purposes the kind of timber most used for pattern making and in temporary structures, such as traveling cranes, staging, framework, platforms, for the erection of bridges and similar work, was either American or Baltic, the nature and properties of the different descriptions of which as usually met with in our market he proposed shortly to describe, but before doing so, it might be interesting if he gave a very slight sketch of its introduction to this country. Previous to the colonization of America our supply of fine timber was obtained from the countries on the coasts of the Baltic, of which Norway, Russia and Sweden were resorted to. The colonization of America, however, soon opened a large and valuable field for obtaining timber of similar growth, the two Canadas especially yielding large supplies of a very fine quality. More recently a supply of the same kind of timber had been obtained from Savannah and the adjacent states of America, and efforts were now being made to open a trade in California, where was to be found some of the finest red wood ever brought into our market.

Fir timber might be divided into three distinct classes, known by the color of their wood, viz., white, yellow and red. American spruce deal belonged to the first named class, and was principally used for joists and bearing timber in common houses, as well as for scaffolding in the erection of machinery. There was so much of a very inferior quality of this kind of timber, that it was necessary a very practical knowledge of it should be acquired by those under whose directions it was used, as serious accidents frequently happened when it was misapplied. Baltic white deals were wood of a very fine texture, used principally for the same purposes as the American spruce deals. This timber would not, as a rule, bear so great a load as the American, but it was much less liable to warp from change of temperature. Both these kinds of timber were especially liable to decay if placed in warm or moist situations, fungi speedily forming on them, and causing what was commonly known as dry-rot, and when once this had commenced the wood was no longer to be depended upon. These woods were both extensively used for packing cases for machinery, and for this purpose were quite as good as more expensive timber. The next class of timber to which he would direct their attention was the American yellow pine. This timber was imported in logs, and cut up into boards or scantlings in this country. Like the white wood, this timber was practically not resinous; it was of a fair texture, and when not exposed to damp was durable. It was much used for building purposes, especially for joiners' work, and was covered with paint. As a bearing timber it had a peculiar quality, viz., that it retained its form with a permanent load, whereas many kinds of timber when loaded continue to deflect for years, although the load might not be greater than they might safely be required to bear.

Unless, however, this wood was properly treated from the log, its valuable quality of retaining its form was materially impaired. The log should be opened and cut into boards in the autumn, and exposed to the weather through the winter; in the spring it should be removed into the drying shed, and thence into a room having a corresponding temperature with that wherein it was to be stored when finished, for at least one month before worked. On no account should this wood be placed in a store, as in its removal from a high temperature it would always be liable to change its form. There were many qualities of yellow pine, and their quality varied very considerably. Next referring to the red wood, he said this timber was imported both from America and the Baltic in the form of both logs and deals. There were several varieties of red deals, each possessing its own peculiar character, but all of them more or less valuable on account of their power to resist atmospheric changes and the action of moisture. It was, therefore, much used in engineering works, for piles and timber framing exposed to the weather, railway sleepers, and all places where it was necessarily shut out from a free passage of air. It was also less liable than any other kind to dry rot. The timber imported from Sweden was generally of a very inferior quality, and of small size; it was very liable to crack if exposed to the sun, causing what were known as sun strokes. The custom at all the ports on the arrival of the timber was to put the logs into water to prevent this.

The pitch pine from the Southern United States was of a strongly resinous character, but had a great tendency to dry-rot, especially if it was placed in contact with fresh mortar and lime. The timber was, therefore, unfit to be built into walls as bearing beams, unless the ends were placed in cast iron boxes, or were

otherwise protected so as to allow a free circulation of air round the ends of the beams. Many samples of this timber had a beautifully waved grain, and would take a high polish; and these were selected and used for ornamental joiners' work. One peculiarity in connection with all red wood was the varied qualities found in the same log; the lower part of a tree might be exceedingly good, while the upper part might be very inferior. From the remarks he had made it would be seen how impossible it was to fix any arbitrary formula that would be applicable for calculating its strength; the quality being so variable, the same formula would not apply in any two cases. He had tried some experiments on a sufficiently large scale to guide his own judgment, and he found that for a very good and selected sample of Baltic timber the following simple formula for beams might be relied upon: The breaking weight in tons on the centre equalled the product of their breadth with the square of the depth multiplied by .15 and divided by the length in feet, and for an ordinary sample of timber he usually took the safe load in the centre in tons equal to the product of the breadth multiplied by .03 and divided by the length in feet.—*London Building News*.

The *Shawano County Journal* remarks:

M. H. McCord, Esq., and Major H. R. Welles returned to our city last Wednesday evening, and were much surprised at the result of the election in this county. In his effort to establish the outlet of the Wolf the ex-senator allowed the political wolf to ravage the republican fold in this county. Both gentlemen felt so bad over the result that they immediately started for the woods—the ex-senator with a diagram and the major with a double-barrel gun and a fixed determination to kill something.

May they both return with their political sorrows assuaged, and better prepared to give their talent and energies to the cause of science.

**GEORGE W. ALLEN AS A COMPROMISE CANDIDATE FOR THE UNITED STATES SENATE.**

The *Milwaukee Journal of Commerce* argues with some plausibility that there will be a fatal deadlock in the legislature next month between Ex-Gov. Washburn and Senator Carpenter, that no action of the republican caucus will bind the votes of the minority, and that the only way to prevent a democrat or some insignificant republican from running in between these high contending parties is for some eminently competent and respectable republican to be provided in advance as a compromise candidate. The *Milwaukee Journal of Commerce* is known to be friendly to Mr. Washburn, and when it propounds Hon. George W. Allen as a compromise candidate, it does so in no spirit of hostility to that eminent gentleman. It describes Mr. Allen as follows :

Mr. George W. Allen is probably, all things considered, the most available of any compromise candidate that has been or that can be named. Although he has never held nor sought office and has ostensibly devoted a long life exclusively to business pursuits, it happens that he is better versed in the science of government and the principles of legislation, and is a more thorough and competent master of the great problems now before the public, than a large majority of those who have devoted as long a life exclusively to the science of office-holding. Mr. Allen graduated at Union College, and studied law. He was offered a nomination to congress at the age of 26, and was nominated without his knowledge to the senate of the state of New York. He refused these honors and surrendered his professional aspirations, for a business career. In the course

which he marked out he has attained to extraordinary success. As head of the Wisconsin Leather Company he represents the largest tanning interest, with possibly one exception in Great Britain, in the world. Although indefatigable in the conduct of his vast business, he has found time for the comprehensive investigation of public questions and for general literary culture. He is a hard student and a discriminating rather than a greedy reader. His favorite subjects have been fiscal legislation, political economy and international law. He has made Washington his residence every winter for many years, and has been instrumental in securing several important modifications of the tariff—always in the direction of practical freedom and sound government. His services have been recognized by public banquets tendered him by the citizens respectively of Boston and Chicago. He accompanied Mr. Jackson S. Schultz to the recent Vienna Exhibition, representing his trade in an important official capacity. Notwithstanding his large acquaintance and influence in Washington, Mr. Allen has never taken part in any of the corrupt schemes of the day, nor pushed any private measure, nor allowed even the smell of the lobby to attach to his garments.

Last winter he was invited to present his views before the committee on banking and currency. He took a decided stand against a further debasement of the currency and maintained his position with clearness and logical force. He believes with the MILWAUKEE JOURNAL OF COMMERCE that a vitiated and unstable circulating medium operates with especial hardship against the laborer and the producer, and he does not believe that either the western merchant or the western farmer care to get out of paying their honest debts by multiplying dishonored promises to pay.

Mr. Allen, unlike many applicants for office in the history of this state, is a *bona fide* citizen of Wisconsin. He has large vested interests in several parts of the state. His maturer years have been passed in it. He will live in it, and he will die in it, whether it should require his services in office or not. His splendid manufacturing establishment has carried the name of the state to the ends of the commercial world. Although he has not made public life or public speaking a profession, and has never traversed the state apologizing for his misdeeds, Mr. Allen, when inspired by great occa-

sions and great themes has shown that he has few peers in the fine and well-nigh lost art of talking common sense. As an honorable and diligent business man as an earnest and a modest student, as a public-spirited and patriotic citizen, as an accomplished member of society, as a man of broad ideas and of few words, as a man of irreproachable integrity, as an eminently consistent, conservative, acceptable republican, Mr. George W. Allen may be properly described. Whether these are the qualities that are to be any longer sought for in a Wisconsin senator, the republican legislature of Wisconsin for 1875 will soon be obliged to say.

### A PRACTICAL REFORM.

From official sources it is at length ascertained that the constitutional amendment, limiting the bonded indebtedness of cities, towns and villages to 5 per cent of their assessed value, was passed by 66,061 votes for, to 1,509 against it. This is a larger vote than we expected, as it is about one-third of the whole vote polled at the late election. Milwaukee county cast the largest adverse vote, 358, and Rock county the next largest 200. Two counties only voted against the amendment, Bayfield 126 to 2, and Lincoln (the wild-cat county which does not seem to have been heard of or thought of until after the election) by 78 to 1. Under the operation of this wise constitutional check, the inducement to adventurers to organize new counties on paper and so load them down with obligations for "improvements" that nobody but county officers can ever afford to live in them, will be very much curtailed.

To Hon. Daniel Hall, the gentleman who devised this reform, and has pushed it to a successful result, too much praise can hardly be accorded. It may be pronounced "shutting the stable door after the horse is gone," so far as Watertown, Kenosha and a few other unfortunate communities are concerned. It has undoubtedly saved Wisconsin from a disastrous harvest of bankrupt towns, and from a repetition in the northern part of the state of the county-jumper frauds which are grievously oppressing many parts of Iowa, Kansas, and other states to-day.—*Milwaukee Journal of Commerce.*

### LUMBERING ON THE WISCONSIN CENTRAL R. R.

From Mr. Alf. Lunt, the land examiner of the Wisconsin Central R.R. Co., says the Grand Rapids, Wis., *Tribune*, we gather the following facts relative to the lumbering operations on the line of this road. It exhibits a fine showing of business on this new thoroughfare—many times more than we had the least conception of. "These Sections" are the number of miles from Stevens Point.

Sec. 23—called Auburndale—has a shingle mill, cutting 75,000 a day. Owned by Kingsbury and Sons.

Sec. 32—Marshfield—McMillen & Son's saw mill; has one million in pile.

Sec. 35—one shingle mill in operation, cutting 75,000 a day, and a saw mill in course of construction to cost \$30,000, by Mr. Mann.

Sec. 40—Spencer—three saw mills running, which by spring will have three millions in pile.

Sec. 43—Building a mill that will cut three or four millions a year.

Sec. 46—Unity—Spaulding's mill; has three and a half millions and will cut all winter.

Sec. 50—Building a mill to cut four millions a year.

Sec. 51—Colby—Two shingle mills and two saw mills, one of which cuts clothes pins, broom handles, &c.

Sec. 57—Dorchester—Evans & Earl of Green Bay, are building a mill to cost \$25,000. It is now in operation.

Sec. 62—Mr. Stutson, of Green Bay, has just completed a mill that will cut one and a half millions this winter.

Sec. 65—Watermelon & Co. of Fort Howard, have just started a mill that will cut four millions a year.

Sec. 67—Medford—Roberts, Wheelan & Co., new mill, cost \$30,000, and they have three and a half millions in pile and two millions of shingles. They have just added a sash and blind factory.

Sec. 79—Mr. Taylor, of Depere,



has just finished a mill that will cut two millions this winter, and four millions a year.

Sec. 83—Duncan, Ritchie & Co., of Fort Howard, are building a mill, to cost \$40,000, that will cut fifteen millions a year.

Making a total of *twenty-one* saw mills that have been built within two years, and in the face of ruinous prices for lumber and a stringent money market. The road runs through the northern part of this county and some of these mills are within our borders.

#### ON THE WOLF.

The Main Wolf and Red River Improvement Co. held its annual meeting at Oshkosh last week, and elected the following officers:

L. S. Beecher, President and Treasurer; Wm. Wall, Secretary; and J. M. Bray, Leander Choate, Daniel L. Libby, Robt. McMillan and Laban S. Beecher, Board of Directors.

Some 19,000,000 feet of lumber were taken over these dams during the season. A fair dividend was declared and the company purpose to still farther improve the rivers so that logs can be brought down with greater ease another year.

A Shawano correspondent writes that everything bids fair for a lively campaign among the pines of the Upper Wolf. The swamps are full of water, and well frozen over, giving good roads across the low lands.

The sleighing north of Shawano is very good, and at Langlade the jobs are already hauling in logs.

Among the camps on the Upper Wolf are, J. H. Parks, Bray & Choate, Jewell, Lawrence & Co., T. E. Crane, Thad. & S. B. Lawrence, H. H. Rich, Sam A. Wellington, Moore, Galloway & Baker, Frank McArthur & Co., Regan & Co., H. C. Scott, Con Crowley, Henry Sherry, Paul Reynolds, James Morrison and Ira Griffith.—*Green Bay Advocate.*

#### LUMBERMEN NAMED FOR THE U. S. SENATE.

The *Eau Claire Free Press* says :

THE MILWAUKEE JOURNAL OF COMMERCE, too, has its candidate. A paper representing in a large degree the business interests of the state, it puts forward, not as the candidate of the business interests, but as its own candidate, a man from the business walks of life, Geo. W. Allen, a leather merchant of Milwaukee. Doubtless Mr. Allen is all that paper claims for him; but we wonder if it never occurred to that editor, if Senator Carpenter was to be dropped, that further courtesy, if we may be so allowed to express it, ceased, and that western Wisconsin had claims to that office, which in certain contingencies she might feel at liberty to press.

For eighteen years has the eastern tier of counties had both United States senators, and never has that portion of the state been without one senator; hence, we say this part of the state has claims which, under certain circumstances, ought not to be overlooked.

If the MILWAUKEE JOURNAL OF COMMERCE would have the next U. S. senator represented by a business man, besides the undoubted right we have to it on account of locality, we yield to none in thorough, enterprising, wide-awake, broad-gauged business men, and first and foremost among these, we would place Hon. Joseph G. Thorp of this city, who would make us such a senator as would reflect credit upon the business interests of Wisconsin. Then there is Hon. Thad. C. Pound, of Chippewa Falls, and J. H. Knapp, of Menomonie.

To this suggestion the MILWAUKEE JOURNAL OF COMMERCE replies :

The *Eau Claire Free Press* thinks that if Senator Carpenter is not to be re-elected his place ought to be given to someone from the western part of the state, and it names three eminent lumbermen and several average lawyers in this connection. This geographical argument is unworthy of so sensible a paper as the *Free Press*, and it does not become a paper which is opposing the pretensions of Mr. Washburn, a lumberman from the western part of the state and maintaining those of Mr. Carpenter, a Milwaukee lawyer.

There is probably no objection to any of the business men named by the *Free Press*. There is, indeed, another gentleman, Mr. Joseph T. Gilbert of the Eau

Claire Lumber Company, who, tried by the geographical test, would prove still more acceptable, because, while his residence is in Milwaukee his large business interests are in the Chippewa valley. Mr. Gilbert is a gentleman of culture, of character, of executive talent and of the commercial standard of honor, which we should like to see imported into the management of national affairs. Any sound, capable, and respectable business man would do Wisconsin more honor and the nation more service in the United States senate for the next six years than the gifted lawyer who has blundered on nearly all the great issues which he has not managed to dodge.

### THE MUSICAL TREE.

Something new is the musical tree. It is owned by a resident of Murray Hill, who purchased it in Europe, and is quite positive it is the only thing of the kind in America. It is an artificial tree or bush about five feet high, set in a large square tub of Russian leather. It looks very natural and beautiful, every leaf, sprig and limb being absolutely perfect. Touch a knob on one side of the tub, and instantly the tree is literally filled with small birds of every imaginable hue and color, including those represented in the rainbow. Each and every bird begins to sing, and very sweetly, too, their soft notes blending beautifully in harmony. Touch the knob again, and the birds disappear mysteriously, to reappear whenever summoned by pressure of the little gold knob.

The *Ashland Press* says :

The Ashland Lumber Company has contracted with John McDonald, of Bayfield, for one million feet of logs, which he will put in on Onion river the coming winter. Ole Storman has a contract to put in from one to two million for the same company, and is already at work. The company are preparing for a lively business another year.

## WISCONSIN'S OWN RAILROAD.

### SHALL IT HAVE DECENT TREATMENT OR NOT ?

The Wisconsin Central and the Next Legislature—Shall the Old Absurd Struggle to Make Lumber Travel By A Roundabout Line Be Kept Up?—A Straight Line From Stevens Point To Portage or No Line At All.

*From the Portage State Register.*

Gov. Taylor and a party of gentlemen, including the railroad commissioners, recently made a trip over the Wisconsin Central railroad to the end of the track, 101 miles northwest of Stevens Point. The magnitude of the work and the vast resources of the country through which it runs, left a deep impression on the minds of the entire party. As our readers well know, operations on the road ceased a year ago at the point above named, leaving an uncompleted gap of about fifty miles between the two portions of the road. Work was not resumed last spring because, in part, the railroad legislation of the state last winter created a feeling of insecurity on the part of eastern capitalists, as to investing their money in Wisconsin enterprises. Another and more serious difficulty confronted the officers of the company. The charter for the road requires that a road shall be built to Stevens Point from Portage, via. Ripon, &c., a distance of 114 miles ; these two points can be connected by building on a straight line a distance of 71 miles. The company sees, as everybody else must see, that it cannot operate the road successfully on the circuitous route, against competition, if it should build it; and if it could, of course the expense of operating the 43 miles of unnecessary road would have to be charged into the expense account, so the farmers of southern Wisconsin, who are vast consumers of the lumber of northern Wisconsin, and the producers of that article would have to pay, between them, the additional cost of operating the road for the in-

creased distance. So the company asked, at the hands of the legislature, permission to build on a straight line. As cheaper freights is the demand of the day, it seems strange indeed that any considerable portion of the legislature should have been found to object to the short line, but so it was. After a stubborn fight the assembly passed a bill which authorized a partially straight line, but it was defeated in the senate by one vote.

The contest arising over the company's application for the land grant for each section of twenty miles of completed road beyond Stevens Point, has been settled by a stipulation entered into between the company and the secretary of the interior, under which the lands applicable to building about five sections of the road are to be withheld until the road shall have been built between Portage and Stevens Point. So the question of "security" which disturbed the minds of so many well-meaning men, no longer remains to embarrass the question.

The situation now is, a straight line or no line at all. The company avows its readiness to go on with the work in the spring, if the line can be straightened; it is just as frank to confess that it cannot build the road at all, unless permission be given to straighten the line. Capitalists will not furnish money to build 114 miles of road when the same points can be connected by 71 miles of track, for they see that the straight line would be a necessity, and, when built, as it must be some time in the future, there would be very little for the round-about line to do. It is only common prudence that dictates such a course, and we trust the legislature, when it convenes next January, will address itself at once to the work of adjusting this question according to the dictates of the plainest common sense, and give its unqualified consent to the straightening of the line, and bestowing the balance of the

land grant on the terms of the stipulation entered into between the company and the interior department.

It would be a lasting disgrace to the legislature of Wisconsin if it should allow the balance of the grant to revert to the general government, as it soon must do, because the company could not build a piece of road which, when built, it would have no use for, and if built would not promote the material interests of the state in any important particular.

We feel warranted in saying that every member of the senate and assembly, from Lake Superior to Illinois, on the line of a straight road, will favor the change, and it is so obviously just that we shall be surprised if the legislature shall even seem to hesitate to grant the privilege.

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#### RIGHTS OF EMPLOYERS AND WORKMEN IN AN INVENTION.

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The doctrine now held by the patent office is that the inventor has the right to avail himself of the mechanical skill of those whom he employs to put his invention into practical form. If the inventor gives general directions to his workman to produce a certain machine, the combination of parts or arrangement, so produced, belongs exclusively to the inventor, and the work man has no patentable right therein. This should be distinctly understood and remembered by workmen. But when a workman himself suggests and invents an improvement, without previous direction by his employer, the invention belongs to the workman, and the employer has no claim thereon, although the device may have been made in the shop of the employer, with his tools, and during time belonging to him. This should be distinctly understood and remembered by employers.—*Scientific American.*

## INDIAN PINE LANDS.

**Important Decision of the Supreme Court—  
Probable Cancellation of Pine Land Contracts.***Washington Correspondence of the Cincinnati Commercial.*

The Supreme Court of the United States has just rendered a decision, the ultimate result of which, it would seem must hasten the solution of the troublesome problem of the tribal relations of the Indians, and of the question of their recognition as citizens of the United States. The immediate result will be to destroy some very valuable pine timber contracts, and to render a considerable number of Indian tribes almost entirely destitute. The Supreme Court, Chief Justice Waite rendering the decision, has decided that the Indian tribes of this country do not own the fee to the lands within their respective reservations, and are only tenants of the United States, to whom alone the fee belongs. The decision also holds that the timbers and minerals are a portion of the reality, and that the Indian tribes cannot sell the one nor lease the other. The case came up from the reservation of the Oneida Indians, near Green Bay, in Wisconsin, where one or two Indians had disposed of a quantity of pine logs. The Indian agent, on behalf of the tribe, brought suit for replevin to cover the loss, on the ground that the lands and the timber thereon belonged to the Indians in their tribal relations. The case, having passed through the various appellate courts, has just been decided by the United States Supreme Court.

The decision will seriously affect some ten or twelve of the most important Indian agencies. It will deprive the Indians of these agencies of what has been supposed to be the most important possessions, the pine lands. In several of the agencies the main source of the support of the Indians is derived from the sale of logs. The reservations at Menominee and

Bay City, Wisconsin, will be seriously injured by this decision. No more pine timber can be sold by Indians on these reservations. The pine hereafter, sold must be sold under the authority of a special act of Congress, and the proceeds turned into the United States treasury. This will, of course, cancel the noted Red Wing and Wilder pine contracts in Wisconsin, inasmuch as the basis of the sale is a nullity. The Indians upon one reservation in Kansas, who have been receiving a large royalty from some coal lands, will be deprived of revenue from that source. It is the general opinion of the Indian officials that the result will inevitably be that Congress will be obliged to provide some means whereby the Indians can become citizens, and acquire property rights. This decision really strips the Indians of their homes, and destroys the old foundation upon which the tribal relations have been supposed to be based. It is very fortunate for the Stockbridge Indians that they have this summer received pay for the pine already sold, as it is certain that the government will not attempt to recover the money for the pine that has already been sold. It is certain, however, that all contracts for the sale of pine timber by the Indians must be annulled.

**RAILROADS THROUGH TIMBERED COUNTIES.**

To show the advantages of railroads in thickly timbered counties, it is only necessary to state the facts as furnished by Alfred Lunt, the land examiner of the Wisconsin Central railroad, of the number of saw and shingle mills which have been erected on the line of that road beyond Stevens Point. The road is now constructed 83 miles beyond Stevens Point, and at various points along that distance no less than twenty-one saw and shingle mills have been built, and that in the face of ruinous prices for lumber and a stringent money market. Precisely the same

thing would follow from the building of a line from Sturgeon Bay to Green Bay. The railroad can be built on a line of 45 miles over easy grades and through a fine farming region, heavily timbered and at the Green Bay end already studded with numerous saw and shingle and wooden ware mills, where they now have to haul their lumber, shingles and wooden ware many miles to the bay shore and to the lake shore. Next season when the ship canal is approaching completion the question of a railroad connection with the system of roads at Green Bay must be revived, and something done to give it vitality and get it before the people to insure success. A railroad must follow the opening of the ship canal and harbor of refuge, and we have had as much faith that it will come as we have had in the many years past that the ship canal would come and behold it is here.—*Green Bay Advocate.*

*From the Milwaukee Journal of Commerce.*

#### THE WHEAT OUTLOOK.

We feel some hesitation about giving our farmer readers continual advice. We should much prefer to refer them to our regular reports of facts and leave them to act upon their own judgment as they certainly must always act at their own risk. Our suggestions are made therefore with due modesty and are limited to such facts and propositions as seem to us to be beyond dispute.

At the present time we are constrained to warn farmers to hold off a while. The Milwaukee market is just now purely speculative. It is believed to be controlled by the "bear" interest. It is only kept up by the strong "bull" movement in Chicago. The New York market is so much below this that there is virtually no shipping demand. While there is some reason to believe that wheat has reached the point at which capital is willing to take hold of it as an investment, it must be borne in mind that this point is determined largely by the volume of receipts. For these reasons, although European dispatches as we go to press are favorable for a rise and have perceptibly strengthened the tone of this market, we counsel

farmers to forward their wheat cautiously for the next twenty days. The same degree of watchfulness and prudence which has enabled the producers of this section to hold the operators in check thus far this season, should be continued. Unless this conservative policy is abandoned, there will probably be a "bulge" in the market in January of which those who hold back their wheat now will be able to reap the advantage for both for January and February delivery. Let such as are not obliged to sell this crop to pay debts and taxes wait until the large January disbursements of the government and the railroads, as interest, have given an impulse to all the markets and especially to investment in such a safe commodity as wheat at the present range of prices.

#### STRENGTH VS. WEAKNESS.

*From the Boston Lumber Trade.*

Commercially considered the lumber trade is extensive, wealthy and strong. But the commercial consideration is three per cent. erroneous.

We all know that lumbering as an operation is of great extent, reaching from the extreme east to the extreme west, and from the far north to the distant south. It is also generally presumed that the lumber trade as a whole, is a very wealthy business interest. These two points are admitted. The third point, however, we dispute; and further, we assert that in no other legitimate business can weakness so complete be found as in the lumbering interests of North America. The fact that its principal operations have always been, and to a great extent still are, on the outskirts of civilization, is doubtless one of the causes of this weakness. Another fact, the great majority of our lumbermen are the architects of their own fortunes—and many of them at least are four storied with a mansard roof—and this fact has of course made these men self-reliant to such an extent, that in strengthening themselves they weaken the trade as a whole. \* \* \*

But in reference to the trade, the proposition for an association seemed

to meet with considerable favor; in fact the prominent lumbermen, associated on white paper very well, but when it came to a personal association we were sadly disappointed. The great majority of lumbermen are evidently determined to "go it alone." Flushed with the successes of those exceptionally prosperous years, from '64 to '72 inclusive, this class of men are firm in the belief that this stagnation is but a temporary lull, to be followed by another decade of profit to all. We fear that they will learn too late that they have been bluffing the fates. We believe that the stagnation in the lumber trade has as yet but commenced, and that it is a long way to hard-pan. The attempts at association, and the incident discussion of the needs of the lumber trade seem to have had but little effect. There is evidently a common desire to use all possible dispatch to accomplish its entire ruin. Every exertion is being made to increase the cost of standing timber and to cheapen the price of manufactured lumber.

From the numerous reports in our possession, we are convinced that seventy five per cent. more logs will be cut this season than the market will demand; and it is probable that thirty-three per cent. more mill capacity will be employed next summer than will be profitable to manufacturers. It requires increased strength to accomplish this work, and its result will be increased weakness. Facts, figures and arguments are of no avail; prominent lumbermen admit the truth of them all and complacently fold their hands, and assure you that you might as well attempt "to check the falls of Niagara, or stop the falling of the rain-drops from Heaven," as to attempt to regulate the cutting of logs or the manufacture of lumber.

This is a phase in business principles entirely beyond our comprehension, but it is a stubborn fact; and yet in the very face of this com-

plex position, lumbermen expect their customers and the business world to believe them when they assert that they are losing money by their operations. While every other business interest in the country is curtailing operations and retrenching in every conceivable way, the lumber trade is exhibiting the paradox of modern times in spending its strength to purchase weakness. But go on gentlemen! It is a consolation to know that they are braver, shrewder and more able men, who, after the most of you have reached the near end of your present suicidal policy, will succeed you in the trust of the most valuable source of wealth on the continent, and who, it is fair to hope, will be wise enough to use it for their own good and for the good of their country.

We do not desire the above remarks to be too sweeping or general in their application, for we are aware that there are a large number of high minded, intelligent and shrewd gentlemen among the lumbermen of the country. Within the past thirty months we have had the pleasure of the acquaintance of a large number of them. We wish that they were in a majority; it would be a great pleasure to cater, as a journalist, to their needs and the interests of the trade, but unfortunately they are greatly in the minority.

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A Grand Rapids correspondent writes: "Our mill men are making arrangements to put in a full stock of logs, about 73,000,000 feet, this season. Quite a number of camps have been established on Grand, Flat and Rogue rivers, and others will soon be planted. The amount of lumber cut here this season is about 60,000,000 feet, or 12,000,000 feet less than in 1873. The amount of lumber on hand at the yards in this city is estimated at 38,000,000 feet. Dealers report the market active, yet orders are mostly car-load."

## THE WISCONSIN COOPERAGE COMPANY.

## An Interesting Industry—The "One Stave Barrel"—How It Is Made.

From the Oshkosh Times.

Nearly every person in this city has by this time undoubtedly heard of the "one stave barrel" but very few have a clear conception of what the thing is or how it is manufactured. To most people the idea of making a barrel with but a single stave, looks preposterous, but nevertheless that very identical feat is accomplished, and it is not such a terrible operation after all.

Last Thursday, through the kindness of Mr. Osborne, manager of the Wisconsin Cooperage Company, we were shown through their works, and to one who has never seen anything of the kind, the sight is novel in the extreme. The manufactory is not yet in full running order, consequently we were unable to form a very clear idea of the whole *modus operandi*. The logs are first sawed into

## BOLTS

the exact length of the barrel, by means of a "drag saw" like that used in shingle mills. These bolts are then conveyed by means of what is known as the

## STEAM BOXES.

These are apartments made as nearly steam tight as possible. The bolts are allowed to remain in this steam bath from six to eight hours, when they are taken out and conveyed to another part of the mill and placed in what appears at first to be

## HUGE LATHE,

but which in reality is the machine for cutting the staves. The bolts are placed in this machine similar to a block of wood in a lathe. A large revolving knife is then started, and a mammoth shaving the full length of the bolt and of the thickness the stave is intended to be, is taken off the outside in one continuous sheet

until the bolt is entirely used up. This machine will cut a stave from the thickness of a sheet of paper to one-half inch, the usual thickness, however, being about three-eighths of an inch. These are then passed through another machine which closes the ends and chamfers the chime. It is then passed through still another machine which joints the edges, and forms the "bilge." The staves are now in flat sheets. They are placed on a car and taken to

## ANOTHER BUILDING,

where they are bent into proper shape and the hoops put on, after which they are put into the dry house until they become thoroughly seasoned.

A person might naturally think that these barrels would be more expensive than the old kind; on the contrary they can be sold much cheaper, and it only needs one glance to convince anybody that they are much stronger and better for shipping flour than the old kind. The manufactory of this company is being fitted up in the very best possible manner with all the latest improved machinery and appliances. They are now getting in the machinery as fast as possible, and expect to be running with a full force of hands in a very short time. We shall have more to say about the enterprise in the future.

LUMBER ON HAND.—A well known lumber dealer who has been gathering figures of the amount of lumber on hand on the river, informs us he has the figures of all the mills at the lower end of the river excepting four, and many of the mills here, and from these he estimates the total amount of lumber on hand as 42,000,000 less than the amount on hand at the close of the season of 1873, which was 191,000,000 feet.—*Saginaw Courier*.

## MILWAUKEE AS AN IRON CENTER.

## IMPORTANT ADDITION TO THE FACILITIES OF THE MILWAUKEE IRON COMPANY.

The New Merchant Bar Iron Rolling Mill—  
A New Era in the Iron Trade of Milwaukee—Another Important Agency for Harmonizing the "Plow, the Loom and the Anvil"—Description of the Mill and its Processes.

*From the Milwaukee Journal of Commerce.*

The Milwaukee Iron Company has made during the year, 1874, about 26,000 tons of rails, and about 18,000 tons of pig iron. The full capacity of the works in above items is 45,000 tons of rails and 30,000 tons of pig iron. While many works of the country have been entirely idle, the Milwaukee Iron Company has turned out more than half its usual quantity of work. The business of re-rolling has been dull, as nearly all the railroads in this state have been so seriously injured by the panic that they have been unable to get rails for needed repairs. The railroads in Minnesota have been similarly affected.

The rails for all the new road laid in Wisconsin during 1874 have been made by the Milwaukee Iron Company, and have kept the mills busy only four weeks. That the Potter Law, and the unsubstantiated howl made about it in certain quarters, may have aggravated some of the results of the panic is quite probable. The company being thus driven out of our own state for a market, has had to look elsewhere. Rails have been sold in Michigan, Illinois, Iowa, Minnesota and Utah. The mills are now working on rails for narrow gauge roads in the far west.

During the year 1874 a very important addition was made to the company's works. We allude to the mill for the manufacture of merchant bar iron, part of which is now completed and running. This step, although contemplated for some time, has been hastened by the temporary

falling off in the demand for rails, and by the desire of the company to diversify its business and provide other for the products of its blast furnaces and puddling mills.

The plans for this mill were made during the last winter, work begun in spring, and the first bar of merchant iron ever rolled in the state of Wisconsin, was made in it on the 13th day of November, 1874. The main building is built entirely of brick and iron, it is 216x109 feet. Its south end is joined to the top and bottom mill built in 1872, and the two now form one building covering an area of 44,344 square feet. Commencing at the north end of the mill, and going south we find a nine inch train of rolls, nearly completed. Next to this is a twelve inch train completed and running. Next to this is a space left for an 18-inch train which will be put in as soon as the business requires it. Next to this is a 21-inch train now running, making "flats" for rails, and "billets" for merchant iron. This train will also be used to make very large sizes of round, square, flat, angle, and other forms of iron. It is also the intention of the company to make I beams in this train up to ten inches in width. This will require no alteration as the foundation, housings, &c., were originally put in for three sets of rolls in length. The engine, fly-wheel, &c., are unusually heavy. The engine attached to the 9 and 12 inch trains are respectively, 20-inch bore and 16-inch stroke, and 22-inch bore and 20-inch stroke. They will run without harm up to 200 revolutions per minute. They were made by E. P. Allis & Co., from designs of W. F. Durfee, the company's engineer and general superintendent. Nearly all the other machinery in the mill, also the boilers, were made in the company's own shops.

The new mill contains 3 Siemen's heating furnaces. It is no exaggeration to say that they are the most perfect things of their kind in the



world. Just east of the new mill is a fire proof building 40x80 feet, containing the "gas producers." Their use is to make the gas which is burned in the Siemens' furnaces. Anything which is combustible will do to use them. At present they are being fed with anthracite coal dust, coke dust and fine bituminous coal in about equal proportions. The two former substances are screened out of the blast furnace fuel, and have been heretofore of no use to the company. The fuel is slowly burned, at a dull, red heat, and the producers are therefore nearly indestructible. The gas is conducted in an underground flue to the furnaces. The right quantity is admitted through one set of openings, and next to them is another set for the incoming air. Just enough oxygen is admitted to produce perfect combustion, and not any left to take hold of the white hot iron and waste it away. In the ordinary furnace there is a waste of about eight per cent of iron every time it is heated. In the Siemens' there is no waste excepting the cinder and other impurities which are melted and run away. But this is not the end of the saving. After the heat has passed over the iron with which the furnace is charged, if its outlet were direct to the chimney, as usual, a very large proportion of the heat would be lost. Directly under each furnace are two sets of chambers filled with loose fire brick, laid up "cob house" fashion, and called "regenerators." The heat which would be otherwise wasted, finds its outlet through one set of regenerators, and the fire bricks absorb and store up for future use the waste heat. After they are saturated with heat, the valves are turned, and the incoming air and gas are made to pass through the hot bricks, and their heat thus given off is again used in the furnace. This changing from one set of regenerators to the other, is repeated ad libitum and the result is, absolutely no smoke, no loss of fuel, no waste heat, no waste of iron

from oxidation, no sulphur or other impurities communicated to the iron by impure fuel, and a steady, intense heat, perfectly under control, which can easily be made to melt wrought iron as thin as water, if wanted. These furnaces are the first of the kind ever used in a merchant mill in the United States. They are largely in use in steel works here. In England and on the continent they are extensively used and are no longer anywhere an experiment. All the buildings, machinery, &c., in the new mill were designed by Mr. Durfee. When completed it will be able to turn out 18,000 tons of bar and other finished iron per annum.

The completion of this mill commences a new era in the iron trade of this city and state. There is no bar iron made nearer Milwaukee than Detroit and St. Louis. The amount used and sold here is immense, and little of the money paid for it ever returns to us. By making it, here we have taken another step in the direction of that harmony of interest which should always exist between the "plow the loom and the anvil." A new mill is itself a creation, planted down here for all time, destined to go on from year to year, converting the materials almost worthless as they come from the hands of nature into finer forms, to be used in greater or less quantity in almost everything useful used by men. Iron is the foundation of many other industries, and an important element in most trades and in nearly every branch of business. Throwing aside all questions of free trade and protection, it is a fact which all must admit that no business is of greater benefit to the community than the manufacture of iron. No business pays a larger proportion of its total value to labor. It is the money paid for labor which benefits us.

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Subscribe for the WISCONSIN LUMBERMAN; only \$2.00 per year.

MICHIGAN ITEMS.

We glean much information from various sources concerning the eastern pineries of Michigan, which we group in a general article under the head of "Michigan Items."

Operations at East Tawas and Tawas City do not seem to have been as large as was supposed. We find that at

EAST TAWAS.

Tawas Mill company started up May 1st, run until August 15th and then shut down for two months. Product for season 7,500,000 feet; capacity of mill 16,000,000. Will carry over 1,500,000 feet of first cut and probably 600,000 feet of that cut since Nov. 1st.

Iosco mills, William G. Grant & Sons, annual capacity 11,000,000; cut 5,000,000 feet, all sold and shipped; will put in 9,500,000 feet of logs. Salt block at this establishment commenced its operations May 1st, 1874, and has run the entire season with the exception of one month, making from 85 to 90 barrels of excellent salt per day, all of which has found a ready sale.

Adams, Jolly & Co., saw mill, capacity 5,000,000 feet; cut 1,000,000 feet of lumber, all sold and shipped.

Wm. Jenkinson, successor to Adams, Jolly & Co., will put in 4,000,000 feet of logs, H. P. Smith & Co. will put in 1,000,000 feet of long timber, S. P. Bliss 3,000,000 feet, J. Merrifield 1,000,000 and Wm. Sanhorn & Bro. 3,000,000 feet at this point.

TAWAS CITY.

J. C. Cameron & Co., saw mill, capacity 15,000,000 feet, cut 8,000,000 feet; all sold and shipped, will put in 10,000,000 feet logs.

C. H. Whittemore cut 4,000,000 feet of lumber, got out 1,250,000 feet long timber, will carry over 5,000,000 feet lumber and 500,000 feet short logs; will put in 5,000,000 feet short logs and 1,000,000 feet long timber; shingle mill rut 2,000,000 shingles all sold and shipped.

S. & C. D. Hale cut 6,000,000 feet of lumber, shut down last of August, carry over 250,000 feet of bill stuff and will get in 6,000,000 feet of short logs.

We are short of some details in regard to shingles cut and long timber to be put in. In regard to operations at Alabaster we gave the details some weeks since.

The different shingle mills in the vicinity of Tawas manufactured 25,500,000 shingles during the season, all of which have been shipped. In the same vicinity there will be put in 9,500,000 feet of long timber.

AT ALPENA

the season has been very successful. The shipments of one week in October from that port aggregated 7,000,000 feet; twenty-one vessels were loading there at one time, and fifteen vessels were not an uncommon number to be taking on cargoes at any time during the month. The season's cut of lumber will not vary far from 85,000,000 feet, of which the following amount will probably be

CARRIED OVER.

	Feet.
Richardson, Avery & Co.....	4,000,000
Campbell, Potter & Co.....	1,500,000
J S Minor (Norway).....	1,500,000
Bewick, Comstock & Co.....	500,000
Albert Paek & Co.....	500,000
A F Fletcher & Co.....	500,000
Hillard, Churchill & Co.....	1,000,000
Mason, Luce & Co.....	750,000
Falkerts & Butterfield.....	750,000
F W Gilchrist.....	1,000,000
Alpena Lumber Co.....	500,000
Total.....	12,500,000

This estimate being made upon the supposition that most of the lumber carried over would be cut after the season of shipment had closed and the weather thus far being unusually favorable to late shipments, it is fair to cut down the aggregate of lumber carried over to 10,000,000 ft., against 21,000,000 feet carried over last year.

## LOGS FOR NEXT SEASON.

A special effort has been made by the Boom Company to run out old logs, so that for the coming year there will be only the cut of 1873, of which 25,000,000 feet, hung up, will be left over, and the new logs to be cut next winter, of which the following is the estimate:

	Feet.
Campbell, Potter & Co.....	4,000,000
Cushman & Co.....	2,000,000
Richardson, Avery & Co.....	5,500,000
A N Spratt.....	2,500,000
Sheridan & Holmes.....	2,500,000
Falkerts & Butterfield.....	5,000,000
F W Gilchrist.....	3,000,000
H R Morse.....	4,000,000
Geo Richardson.....	2,000,000
J S Minor.....	3,000,000
Bewick, Comstock & Co.....	5,000,000
Albert Pack & Co.....	3,000,000
Hillard, Churchill & Co.....	6,000,000
Mason, Luce & Co.....	5,000,000
Alpena Lumber Co.....	6,000,000
Small lots.....	5,900,000
Total.....	63,500,000

## OSSINIKE.

At Ossinike about 4,000,000 feet of lumber has been cut the present season, nearly all of which is sold and shipped, and about 4,000,000 feet of logs will be got in during the winter.

## ALCONA.

Haines & Beard having engaged in the long timber business, sold most of their logs, the mill cutting about 2,000,000 feet of lumber, most of which is sold and shipped. They will put in during the winter 8,000,000 feet of long timber and 2,000,000 feet of short logs.

R. A. Alger & Co. will put in 14,000,000 feet of long timber at this point.

## HARRISVILLE.

Weston, Colwell & Co.'s steam and

water mill combined at this point, was burned early in the season, leaving a fair stock of logs on hand. A new steam mill will be built by the company with a yearly cutting capacity of about 6,000,000 feet.

Backus & Bro.'s steam saw mill, four miles from Harrisville, cut 2,000,000 feet, which will be hauled to shipping points during the winter; will get in full stock for coming year.

## SHRINGPORT.

Two miles below Harrisville, mill owned by J. Van Buskirk, capacity 3,000,060 feet, cut 2,000,000 feet, all sold and shipped. A portion of this went to Lonsby & Van Buskirk's lumber yard at Mt. Clemens; will get in about 2,000,000 feet of logs.

Of the mill and long timber operations at Greenbush, four miles south of Springport, we have some way misled the men and shall make good the omission hereafter.

## AU SARLE.

Glenny, Platt & Co., will get in this winter about 2,000,000 feet of short logs.

Colwell, Smith & Langstaff, steam saw mill, capacity for season 8,000,000 feet; cut in 1874 3,000,000 feet, carry over 500,000 feet, will put in 3,000,000 feet of logs.

Au Sable Lumber and Shingle Co.'s mill, capacity 12,000,000; not run, no provision for next year.

Backus & Bro.'s cut 4,500,000 feet, carry over 500,000 feet; no provision for next year.

Loud, Gay & Co.'s gang mill, cut 14,000,000; timber mill 6,000,000; will carry over 2,500,000; will put in 25,000,000 feet of logs.

Smith, Kelly & Co. cut 5,000,000 feet, carry over 1,500,000 feet, will put in 12,900,000 feet of logs.

Parks & Bro.'s lumber and shingle mill not run, no provision for next season.

Moore & Tanner, new mill, annual capacity 7,000,000; will be stocked next year.

**LUMBER MARKET.**

Milwaukee, Wisconsin.

MILWAUKEE, Dec. 15, 1874.

Yard rates are nominally unchanged. Lumbermen here are really in winter quarters, and are waiting patiently for the trade which will open in January. Last season there was unusual activity after the middle of January and the trade continued very active until late in the spring. There is hardly reason to believe that trade will open very active next month, for it is well known that the farmers are not in so prosperous condition as they were one year ago. There are strong reasons for believing that wheat will go lower in January than it now is and therefore the farmers will be in still worse circumstances than they now are. The amount of wheat now in store in this city exceeds largely the amount, the grain markets are full; and buyers are excessively cautious. We cannot, therefore, hope for any advance in wheat next month. We believe that our lumber merchants here should calculate on a far less trade during January, February and March than they enjoyed last season. We quote yard rates as follows:

Common boards.....	12	00@
Joist and Scantling, 12 by 16 ft.....	12	00@
do do 18 ft.....	13	00@
do do 20 ft.....	14	00@
do do 22 to 24 ft.....	15	00@ 17 00
Fencing.....	12	00@
1st and 2d clear dressed siding.....	25	00@
1st com. do do.....	20	00@
2d com. do do.....	16	00@
1st com. flooring.....	35	00@
2d do do.....	28	00@
3d do do.....	23	00@
1st and 2d clear boards.....	45	00@
3d do do.....	35	00@
Narrow select finishing boards.....	28	00@ 48 00
Wide select com.....	20	00@
1st and 2d clear 1 1/2, 1 1/2 and 2 inch.....	45	00@
3d clear do.....	35	00@
Wagon Box Boards.....	30	00@ 35 00
A stock do.....	35	00@
B do do.....	25	00@
C do do.....		@ 12 00

Square pickets.....	13	00@
Flat pickets.....		@ 12 00
Lath # M pieces.....	2	50@ 2 75
A shingles, # M.....	3	25@
No. 1 do do.....	1	50@ 2 25
Timber, 18 to 22 ft.....	15	00@ 18 00
Timber, 24 ft and over.....	18	00@ 35 00

**Chicago, Ill.**

The last number of the *Northwestern Lumberman* says of the Chicago market:

At this port the shipping season is about closed although the arrivals of random cargoes and car loads, foot up at the rate of one to one and a half million per day. The November receipts have been considerably greater than for the same month last year; the amount being 77,080,708 feet against 58,023,000 in 1873. The receipts and shipments from January 1st to December 1st are as follows:

RECEIPTS.

	1874.	1873.
Lumber.	1,040,589,708	1,081,080,000
Shingles.	588,045,640	497,385,000
Lath....	82,006,000	84,243,000

SHIPMENTS.

	1874.	1873.
Lumber.	570,212,889	541,523,000
Shingles.	341,528,043	390,870,000
Lath....	40,348,234	55,339,000

The receipts for the season thus far, fall but 40,990,292 feet short of the same for 1873, and have exceeded by at least ten million feet, the highest estimate made during the season.

The latest yard quotations at Chicago up to date of December 18th, is as follows:

YARD PRICES.

First clear.....	\$53	00@55 00
Second clear.....	45	00@50 00
Third clear, 1 in.....	37	00@49 00
Third clear, thick.....	43	00@45 00
Clear flooring, 1st and 2d together, rough.....	38	00@40 00
Clear siding, 1st and 2d together.....	22	00@23 00
Common siding.....	18	00@20 00
Flooring, first common, dressed.....	33	00@35 00
Flooring, second common, dressed.....	28	00@30 00
Wagon-box boards, 16 in. and upward, select.....	35	00@40 00
Select, 1-in.....	26	00@30 00
Select, thick.....	32	00@35 00
Stock boards, A.....	32	00@35 00
Stock boards, B.....	28	00@30 00
Common boards.....	11	00@12 00



O. G. clear battens, 2½ inche wide...	11 00@
“ “ “ 2½ “ “	9 50@
“ “ “ 1½ “ “	9 00@
O. G. 2d quality battens 2½ in wide...	9 00@
YELLOW PINE.	
1st and 2d clear flooring 5 in (count)...	35 00@37 50
1st and 2d clear flooring mixed widths, (tape).....	37 50@
1st and 2d clear flooring, narrow, one width (tape).....	38 00@40 00
Com flooring, mixed widths (tape).....	25 00@
“ “ 6 in (count).....	27 50@
1st and 2 clear boards 10 in and over.....	40 00@
“ “ 1½ in.....	45 00@
1½ in 1st and clear flooring (tape).....	37 50@
1½ inch common flooring (tape).....	27 00@
Common boards, rough.....	17 50@
Common fencing.....	17 50@
POPLAR.	
1st and 2d clear siding (not dry).....	15 00@
6-16 in ceiling (count) dress'd, plain.....	20 00@
1st and 2d clear 1 in.....	40 00@
“ “ 1½, 1½ and 2 in.....	40 00@
Common flooring dressed, (count).....	27 50@
Fencing.....	15 00@

SHINGLES AND LATH.

A sawed shingles.....	4 00@ 4 75
Star No. 1 (clear wrapper).....	3 00@
Star No 1.....	2 50@
City lath.....	3 25@3 50

HARD WOOD—DRY—Levee Rates.

Walnut, choice.....	45 00@50 00
Walnut common.....	30 00@40 00
Walnut, inferior.....	20 00@30 00
Ash.....	25 00@30 00
Oak.....	16 00@28 00
Hickory.....	20 00@35 00
Poplar 2d clear.....	21 50@22 50
Poplar 3d rate.....	13 00@14 00
Cedar, sawed.....	32 50@35 00
Cedar, hewn.....	26 @28 00
Cedar posts.....	30 @

Yard rates are for dry, and are from \$7 to \$10 higher. Charges for dressing rough lumber—one side \$2; two sides \$3.

Oswego, New York.

From the Oswego Weekly Palladium.

Our report this week shows a considerable falling off in trade from last week, and is probable a pretty fair indication of what trade will be for some weeks to come. Prices are unchanged.

MICHIGAN PINE.

Three uppers.....	\$43@55
Clapboard strips, 1st quality.....	48 52
“ “ “ 2d “ “.....	18 22

CANADA PINE.

Three uppers.....	\$40@42
Pickings.....	28 30
Common.....	17 22
Inch siding, mill run.....	22 32
“ “ selected.....	32 38
“ “ box.....	13 15
1½ inch siding, mill run.....	22 35
1½ “ “ selected.....	38 40
1½ “ “ box.....	13 15
1½ “ “ mill run.....	24 32
1½ “ “ selected.....	35 42
1½ “ “ box.....	13 15
2 “ “ mill run.....	24 30
2 “ “ selected.....	38 42
2 “ “ box.....	18 15

1x10 stocks, 13 ft, culled.....	22 26
1x10 stocks, 13 ft, culls.....	13 15
1x10 stocks, 16 ft, culled.....	23 26
1x10 stocks, 16 ft, culls.....	14 16
1x12 stocks, 13 ft, culled.....	22 26
1x12 stocks, 13 ft, culls.....	13 15
1x12 stocks, 16 ft, culled.....	23 26
1x12 stocks, 16 ft, culls.....	15 17
1x14 stocks, culled.....	23 28
1x16 stocks, culled.....	22 27
1½ x10 plank, culled.....	13 15
1½ x10 plank, culls.....	22 30
Inch strips, culled.....	22 30
1½ inch strips, culled.....	10 12
1x1½ inch strips, culls.....	25 35
Ash, Canada finishing, 1st quality.....	18 20
“ “ “ common.....	18 23
Black ash.....	85 100
Black walnut.....	12 14
Hemlock.....	4 25 4 50
Shingles, pine, 1st quality, 18 inch.....	3 85 4 00
“ “ 1st “ 16 inch.....	3 05 3 50
“ “ 2d “ 16 inch.....	3 25 4 00
“ “ 2d “ 18 inch.....	4 30 4 50
“ cedar 1st “ 18 inch.....	2 25 2 50
“ “ 2d “ 18 inch.....	2 50 3 00
Hemlock, 1st “ 18 inch.....	3 25
Spruce, 1st “ 18 inch.....	4 50 4 75
Mich. pine shingles, best quality 18 inch.....	14 15
Pickets, pine, 1st quality, flat.....	10 11
“ “ 2d “ “.....	12 13
“ “ 1st “ square.....	10 11
“ “ 2d “ “.....	1 30 2 00

Albany, New York.

But few buyers have been in market since our last report. As far as we can learn but little lumber has been sold. Shipments continues quite brisk and it is expected that all to be sent forward this season will be shipped before the week closes. Ice has not appeared in sufficient quantities to check river navigation and its final close, it is evident, is not near at hand. The canals, on which there is but little lumber afloat, are to be closed by order of the commissioners on the 5th inst.

Stocks to winter over, here and at West Troy, are much lighter than was at one time expected.

The exports of lumber from the St. Lawrence to South America—a trade that a few years ago was almost monopolized at New York—has been much depressed. A Quebec paper says “there is no prospect of its being speedily restored to its accustomed activity.” The total quantity shipped from the St. Lawrence to the River Plate during the season does not amount to half the quantity

shipped last year, as will be seen from the following statement :

Total shipments in 1874.....	16,262,293
Total shipments in 1873.....	36,234,965
Total shipments in 1872.....	28,234,075
Total shipments in 1871.....	26,005,935
Total shipments in 1870.....	20,140,283

At Chicago the reported receipts of lumber, by lake, to the 24th of November were 1,023,799,100 feet against 1,065,107,000 feet the year previous ; the shipments from Jan. 1st, are 562,452,000 feet against 535,089,000 feet the previous year.

The receipts at Albany by the Erie and Champlain canals during the 4th week of November were :

Bds. & set't'g ft. Shingles M. Tim'r c ft. Staves, lbs.	
1873.....	7,008,600
1874.....	215
	400,000

The receipts at Albany by the Erie and Champlain canals from the opening of navigation to Oct. 8th, were :

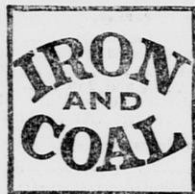
Bds. & set't'g ft. Shingles M. Tim'r c ft. Staves, lbs.	
1873.....	344,670,300
1874.....	341,623,100
	13,362
	12
	4,620,000
	15,695
	7,500
	1,418,500

The present current quotations of the yards are:

Pine, clear $\frac{3}{4}$ m.....	\$31 00@53 00
Pine, fourths $\frac{3}{4}$ m.....	46 00@48 00
Pine, selects $\frac{3}{4}$ m.....	41 00@43 00
Pine, good box $\frac{3}{4}$ m.....	23 00@25 00
Pine, common $\frac{3}{4}$ m.....	14 00@18 00
Pine, clap board strips.....	45 00@46 00
Pine, 1 inch plank, each.....	38 @ 43
Pine, 1 1/2 inch plank, culis, each.....	21 @ 23
Pine, 10 inch boards, each.....	26 @ 31
Pine, 10 inch board, culis, each.....	16 @ 18
Pine, 10 inch boards, 16 ft, $\frac{3}{4}$ m.....	25 00@27 00
Pine, 12 inch boards, 16 ft, $\frac{3}{4}$ m.....	26 00@29 00
Pine, 12 inch boards, 13 ft, $\frac{3}{4}$ m.....	25 00@28 00
Pine 1 1/2 inch siding, select, $\frac{3}{4}$ m.....	38 00@42 00
Pine, 1 1/2 inch siding, common, $\frac{3}{4}$ m.....	16 00@18 00
Pine, 1 inch siding, selected, $\frac{3}{4}$ m.....	35 00@40 00
Pine, 1 inch siding, common, $\frac{3}{4}$ m.....	14 00@17 00
Spruce boards, each.....	14 @ 15
Spruce plank, 1 1/2 inch, each.....	16 @ 17
Spruce plank 2 inch, each.....	20 @ 21
Spruce, wall strips, each.....	@ 12
Hemlock boards, each.....	14 @ 15
Hemlock boards, 4x6, each.....	@ 34
Hemlock joists, 2 1/2 x4, each.....	@ 14
Hemlock wall strips, 2x4, each.....	10 @ 11
Hemlock plank, 2 inch, each.....	@ 30
Black Walnut, good, $\frac{3}{4}$ m.....	75 00@85 00
Black Walnut $\frac{1}{2}$ inch, $\frac{3}{4}$ m.....	75 00@78 00
Black Walnut, $\frac{3}{4}$ inch, $\frac{3}{4}$ m.....	75 00@80 00
Sycamore, 1 inch $\frac{3}{4}$ m.....	@ 35 00
Sycamore, $\frac{3}{4}$ inch $\frac{3}{4}$ m.....	@ 32 00
White wood, chair plank, $\frac{3}{4}$ m.....	65 00@68 00
White wood, 1 inch, and thick, $\frac{3}{4}$ m.....	35 00@45 00
White wood, $\frac{3}{4}$ inch, $\frac{3}{4}$ m.....	35 00@40 00
Ash, good, $\frac{3}{4}$ m.....	38 00@43 00
Ash, second quality, $\frac{3}{4}$ m.....	25 00@30 00
Oak, good, $\frac{3}{4}$ m.....	38 00@45 00
Oak, second quality, $\frac{3}{4}$ m.....	25 00@30 00
Cherry, good, $\frac{3}{4}$ m.....	60 00@70 00
Cherry, common, $\frac{3}{4}$ m.....	25 00@35 00
Birch, $\frac{3}{4}$ m.....	25 00@30 00
Beech, $\frac{3}{4}$ m.....	20 00@25 00
Basswood, $\frac{3}{4}$ m.....	22 00@25 00
Hickory, $\frac{3}{4}$ m.....	40 00@45 00
Maple, $\frac{3}{4}$ m.....	22 00@30 00

Chestnut, $\frac{3}{4}$ m.....	40 00@45 00
Shingles, shaved pine, $\frac{3}{4}$ m.....	6 50@7 00
Shingles, do, 2d quality, $\frac{3}{4}$ m.....	5 00@5 50
Shingles, extra sawed pine, $\frac{3}{4}$ m.....	5 00@5 25
Shingles, clear sawed pine, $\frac{3}{4}$ m.....	3 50@4 00
Shingles, sawed 3d quality, $\frac{3}{4}$ m.....	2 50@2 75
Shingles, cedar, $\frac{3}{4}$ m.....	3 00@3 50
Shingles, hemlock, $\frac{3}{4}$ m.....	@ 3 00
Lath, hem'ock, $\frac{3}{4}$ m.....	@ 1 75
Lath, spruce, $\frac{3}{4}$ m.....	@ 2 00
Lath, pine, $\frac{3}{4}$ m.....	@ 2 25

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440 acres in sec. 1, 12.....	T. 37, R. 34	240 acres in sec. 30.....	T. 40, R. 25
160 acres in sec. 10, 22, 24, 34.....	T. 137, R. 33	380 acres in sec. 3, 22, 24, 26.....	T. 40, R. 29
877 acres in sec. 6, 11, 13, 14, 24, 25, 33, 34.....	T. 138, R. 25	320 acres in sec. 6, 10, 28, 34.....	T. 51, R. 26
160 acres in sec. 8.....	T. 137, R. 33	360 acres in sec. 10, 14, 24, 34.....	T. 51, R. 27
240 acres in sec. 4, 18.....	T. 131, R. 30	320 acres in sec. 14, 22, 25, 30, 34.....	T. 53, R. 26
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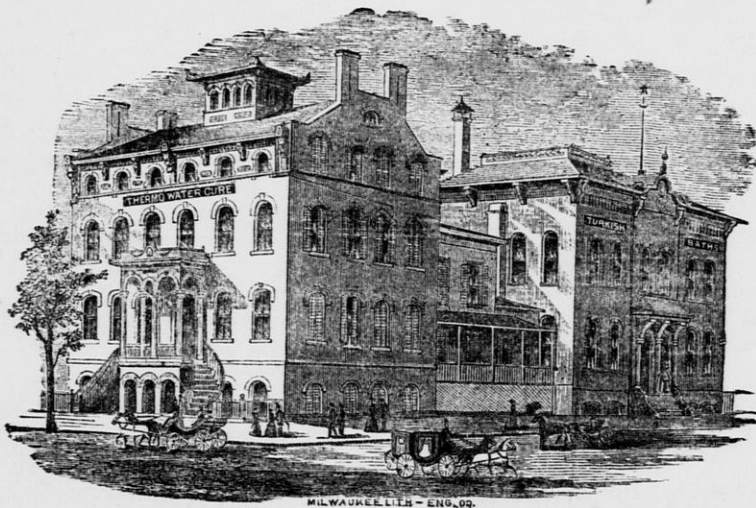
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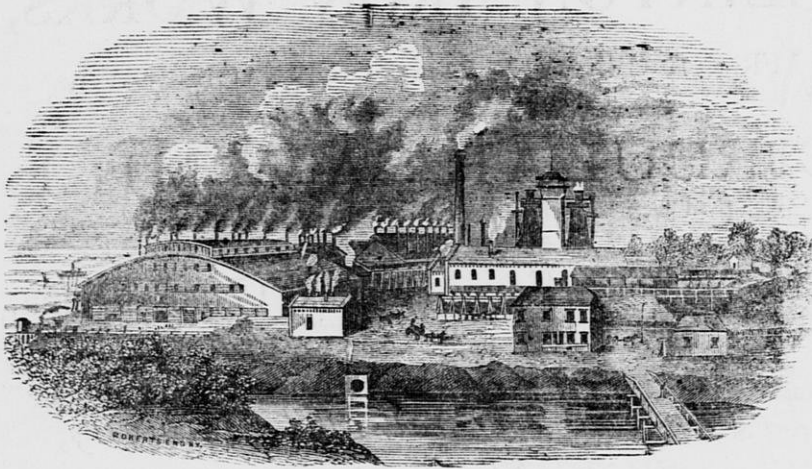
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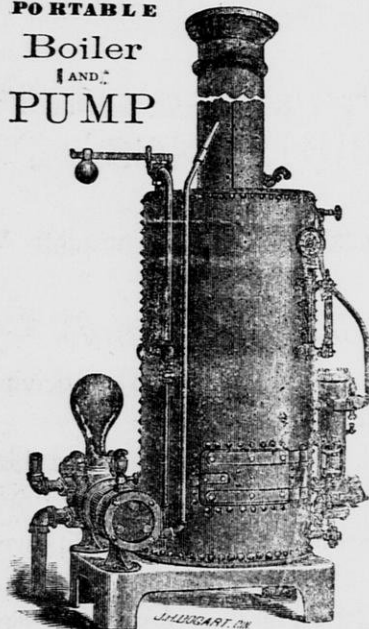
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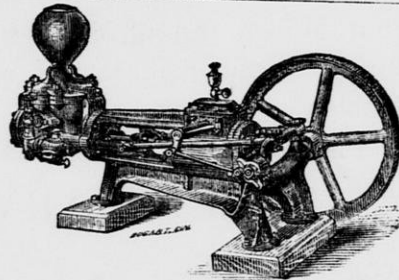
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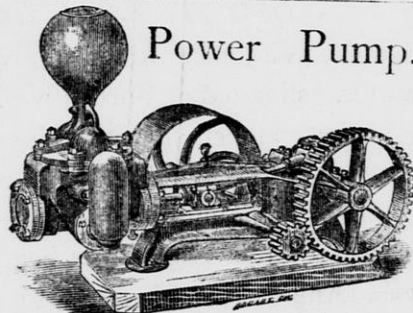


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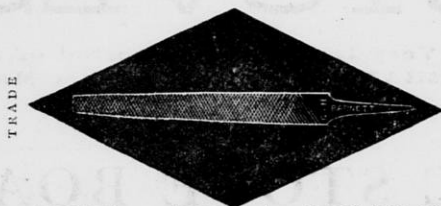
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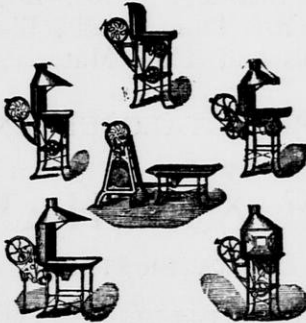


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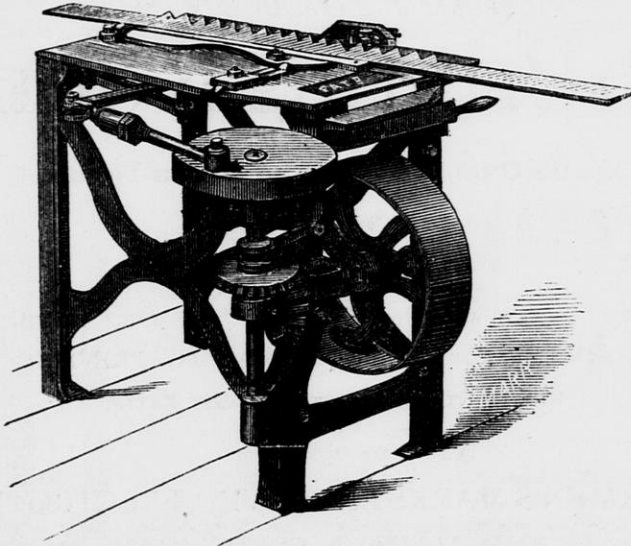


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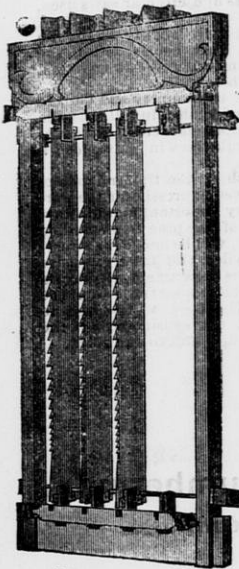
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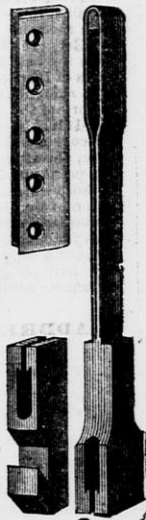
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| DODGE, JAMES & STOKES, . . . | Williamsport, Pa.   |
| A. PARDEE, . . . . .         | Watsonstown, Pa.    |
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The compiled Statement of the

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PUBLISHED BY

JUDSON, DICEY & CO., Publishers of the *Northwestern Lumberman*, Chicago.

This work is a complete digest of lumber statistics, including, aside from the full detailed statement of the manufacture for the current year, a careful summary of statistical matter compiled and condensed into the most convenient form possible, for frequent and immediate reference, making a book of over one hundred pages, octavo, handsomely and durably bound in cloth.

Aside from the guarantee of its value and importance to the trade contained in the fact that it is compiled by the editors of the *NORTHWESTERN LUMBERMAN*, the acknowledged representative journal of the Lumber and Timber Trades, the publishers believe it will be worth **fifty times its cost** for the following reasons:

**1st.** In the statement of the lumber cut for the season of 1874 is comprised in detail a list of every saw mill at every manufacturing point and river in Michigan, Wisconsin and Minnesota, including also the Susquehanna river in Pennsylvania, the Pensacola section in Florida, the Pascagoula river and branches in Mississippi, with other points of note in the south and the lumbering sections of Vermont and Maine. With this list will be given the average daily cut of the mills, the number of gang saws and circular saws used, the number of shingles made daily, and the number of men employed therein.

**2d.** It contains in aggregate, the total amount of lumber manufactured in each locality during the season of 1874, with the amount of lumber on hand, logs on hand in mill booms, main booms, and in the streams, to be carried over to 1875, thus giving the entire balance sheet of each lumbering section or rivers, with the same aggregated by states and carried into a general summary for the whole trade.

**3d.** It gives the latest and most reliable estimates of the standing timber in this country and Canada from the best known authorities; the Law of Michigan governing the Inspection of lumber in full, and the rules of Inspection in use at Chicago, Albany, and St. Louis, the largest distributing markets in the country; sketches of every Association, Board of Trade, or other Organization of lumbermen in existence; a history of the National Association, its officers and standing committees, etc.

**4th.** A very important feature of this work is a summary sketch of the timber lands of Wisconsin and Michigan, embellished with a full page map of those states, engraved expressly for the purpose, showing every railroad penetrating the lumber districts of both states, every important manufacturing point and lumbering river, and the sections or counties containing the most of the pine now standing in those states. This department, worth alone twenty times the price of the book, will be under the supervision of Mr. Geo. S. Frost, of Detroit, Michigan, widely known as one of the oldest and most extensive timberland operators in the northwest. The engraving of the map and cost of this department, requires a heavy outlay by the publishers, actuated by the belief that no one interested in the lumber trade would be without a copy of the work, for many times its cost, after once examining it. The book will be sent to any address postpaid for only **75 Cents** and for every book ordered, and not considered by the purchaser actually worth five times its cost, we will refund the money paid, on return of it to our office.

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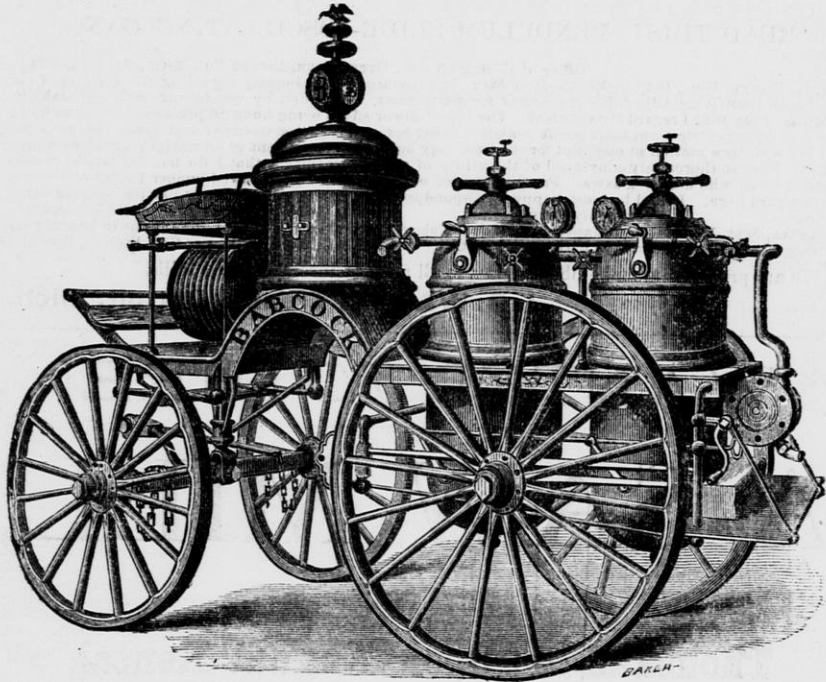


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Nos. 5 and 6 are about  $\frac{1}{4}$  of an inch thick, and are those most used, and will usually be found the most available for all purposes. For mill men and machinists, for pulleys and packing, and to foundries for raising patterns, this article is almost indispensable, and in all our experience we have never found parties, who having used it, would return again to the use of wood, rubber or leather.

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" North— " 8.30 A. M. Fr't—12.05 P. M.

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Arrive, " 8.00 A. M. 8.15 P. M.

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Going North—Pass—11.06 A. M. Pass 10.22 P. M.

" South—Pass—4.37 A. M. Pass 5.35 P. M.

**GRAND RAPIDS.****Wisconsin Valley Trains Leave:**

North—12.30 A. M. | South—3.30 P. M.

**MERRILLAN.****West Wis. Railway Trains leave:**

Going North—Pass—11.05 A. M. 11-10 P. M.

" South " 2.34 A. M. 4-42 P. M.

St. Paul time, which is 25 minutes behind Green Bay time.

**WINONA.****Winona & St. Peter R'y Trains leave:**

Going West—Passenger—1.05 P. M.

" " Accommodation—5.35 A. M.

" " " 4 P. M.

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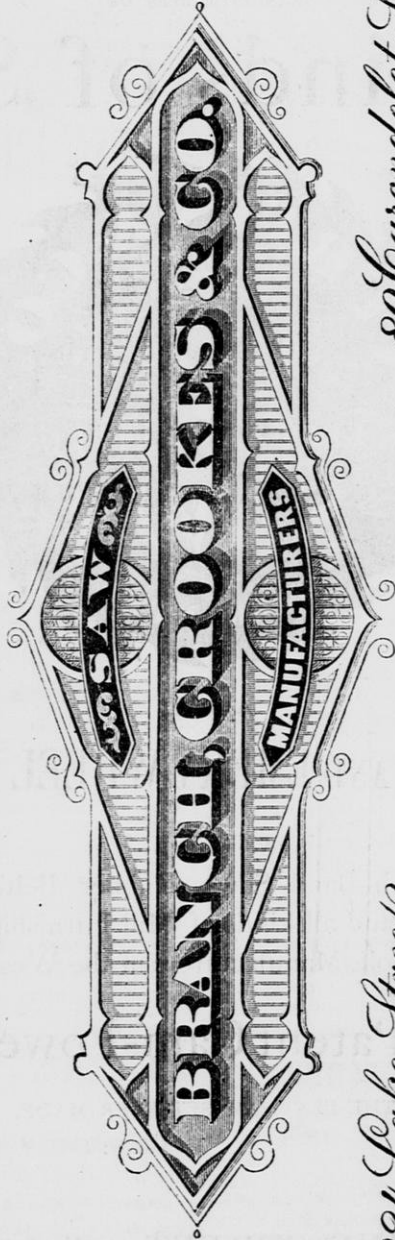
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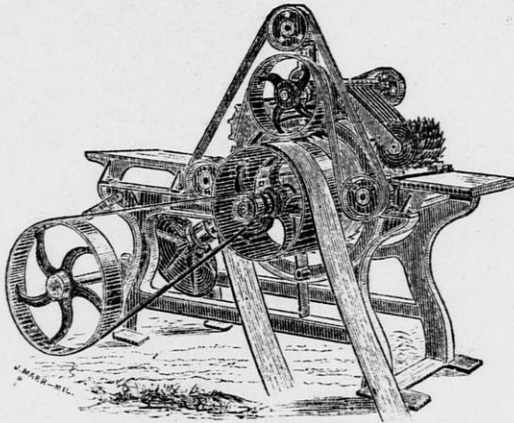


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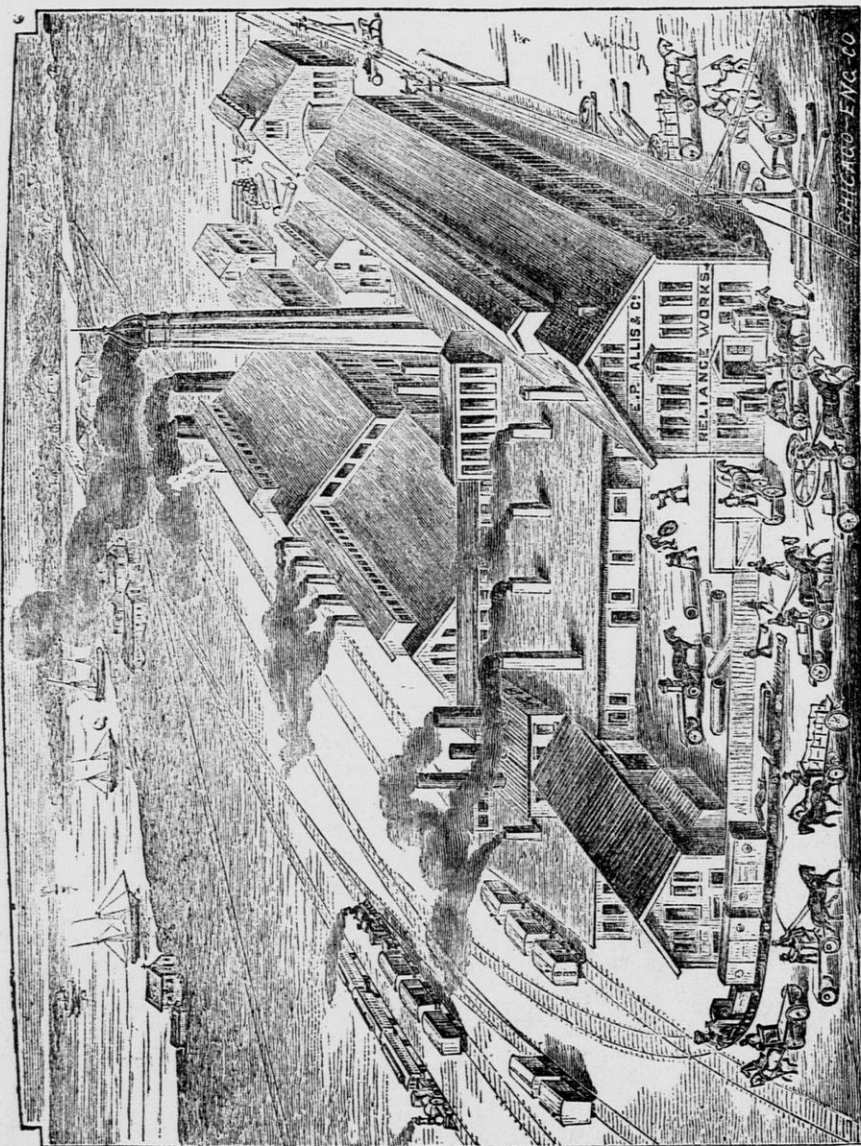
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