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## **The Wisconsin lumberman, devoted to the lumbering interests of the northwest.**

### **Volume II. Number 3 June, 1874**

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THE

# Wisconsin Lumberman,

DEVOTED TO THE

LUMBERING INTERESTS OF THE NORTHWEST.

JUNE, 1874.

## PRINCIPAL CONTENTS:

The State of the Trade, - - -	233	All About Boiler Explosions, - - -	269
Milwaukee Merchants and the Railroads,	235	Canada Lumber, - - - - -	272
Sound Advice from Chicago, - - -	236	Muskegon Lumbering, - - - - -	273
Scale Measurement of Hard Wood Logs,	238	Sorting of Lumber, - - - - -	274
At the East, - - - - -	239	International Lumber Convention, -	275
Erie, Pa., - - - - -	239	The Lumber Trade of Tonawanda, -	278
A Chicago View of the Williamsport		Lumber Interests on the Connecticut, -	278
Convention, - - - - -	240	Wisconsin Rivers and Harbors, - - -	279
Responsibility of the "Wisconsin Lum-		Tests of the Strength of Pine, - - -	280
berman," - - - - -	241	The Lumber Trade of Buffalo, - - -	281
Heading and Stave Business in the West,	242	Washburne's Great Mill at Minneapolis,	284
Reciprocity & American Lumber Interests,†	243	Saws and Saw Mills, - - - - -	285
The Presque Isle Iron Works, - - -	244	The Lumber Trade of Darien, - - -	286
Timber and Bill Stuff Table, - - -	247	Preservation of Wood, - - - - -	287
The Best Kind of Drummer, - - -	248	The Lumber Trade of Milwaukee, -	289
The Shearing Room Controversy, - - -	249	Chippewa River Survey, - - - - -	290
Wood Working Machinery, - - -	259	Michigan Lumber, - - - - -	291
Timber in Russia, - - - - -	265	Fire in the Pineries, - - - - -	292
Canada's Duty on Timber, - - -	266	Uniformity of Inspection, - - - - -	295
Minnesota Logs and Lumber, - - -	267	Markets, - - - - -	297-302
Kiln Drying Lumber, - - - - -	267	Lumbermen's Register, Etc., - - -	to 344

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

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## WISCONSIN LUMBERMAN.

VOL. II.—JUNE, 1874.—No. 3.

## THE STATE OF THE TRADE.

The lumber market, for common and dimension stuff, throughout the entire extent of the country, is flat. The great activity which prevailed in the Chicago, Mississippi river, and western markets during the months of January February and March, has gradually decreased until the most favored localities can only claim a fair degree of trade. The great markets on Lake Erie's southern shore have not had the advantage of the extreme activity which prevailed in the more western markets during the earlier part of the season, and therefore the condition of those markets has been more uniform and less noticeable. Trade in all parts of the country is only tolerable among that class of manufacturers and dealers who have been so long in the business that a regular line of customers has been established. New firms are particularly depressed and have sufficient cause for their complaint that the market is absolutely worthless. The older firms are, as a usual thing, making fair sales, although at such small profit as to hardly pay the usual and necessary expenses of handling. There are sufficient reasons for the present state of the mar-

ket. In the first place, the entire business of the country is sorely stricken. Happy the business man engaged in legitimate trade, who is assured that his wealth is not daily diminishing. There seems to be a general distrust of all business ventures. The iron and lumber interests are the first to feel the serious injury of that distrust. In the second place there is too much common lumber on the market, and likely to be manufactured. Some persons do not seem to realize that the relative amount of common lumber now manufactured is far in excess of the proportion which came out only a few years ago when the lumberman had the untouched forests to select from. It costs just as much to manufacture common lumber and get it to market as it does first clear. No wonder then that persons who only a few years ago were getting rich very rapidly by the manufacture of lumber, and are now compelled to use inferior logs, should be dissatisfied at the small margins of profit they are enabled to realize by the same outlay of labor and expense. The very fact that the upper grades of lumber continue firm at high prices, indicates that there is none too much of the better qualities in the

market. The only question that can be considered is whether common lumber is selling fairly active at its real value. In proportion to the prices paid for the upper grades a few years ago, it cannot be denied that common lumber is now bringing a fair, even a good price; and that the market is now able to dispose of boards which a few years ago were almost unmerchantable. If we fully consider the difference in qualities we might claim that the lumber markets are even now in better condition or state of trade than almost any other business in the country. When we consider the apathy which characterizes business in general, and also make due allowance for the large proportion of inferior lumber now thrown upon the market, we must conclude that the lumber interests of the country are fully as active and prosperous as any other great industry of the land. Manufacturers are learning that it requires close and economical management to profitably manufacture common lumber. When the lesson is fully learned they will find remunerative labor and investment where now they are suffering loss. While, then, it must be acknowledged that the general lumber market is depressed, it must also be remembered that the depression is on inferior grades, which in the prosperous seasons of the past would hardly have found sale. Dealers are afraid to touch common lumber and only purchase enough to meet actual and immediate demands. They claim that the very many new mills now in operation along the lines of the new railroads in Michigan and Wisconsin, are able to glut the market any moment that an advance occurs, or even seems probable. Many intelligent dealers actually believe that mills so located can log just as well in summer as in winter, and have an idea, that should an advance occur choppers would immediately commence operations. Of course this opinion is exceptional, yet we have heard it expressed. The recent reports from Michigan to the effect that the heavy rains have brought down many logs supposed to be hung up, has had considerable effect in causing dealers to still hold off from making extensive contracts. The yards throughout the entire country are only partially stocked, or at least will so average; yet, just as long as the dealers can avoid buying they will do so, even to the extent of selling their stocks clear from the yards. It is acknowledged on all sides that there are fewer logs to manufacture this season than there were last; also that stocks all through the country are hardly as full as usual. Yet every one is waiting for general business to settle in some definite channel before they will venture any risks or incur new liabilities. All in all, it is well that business men have reason to calculate closely. The result will be less extravagance and more good and permanent results. As a rule, lumber dealers give as their opinion, that the fall trade will materially advance prices of common lumber. There are, however, many who believe there will be no advance and no particular activity until next season. At all events it is absolutely certain that manufacturers must in some

way manage to manufacture common lumber at less cost than they now do, or give up the business entirely; for it is certain that they are not manufacturing enough good lumber to save them from the losses on the poorer qualities.

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#### MILWAUKEE LUMBER MERCHANTS AND THE RAILROADS.

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THE MILWAUKEE JOURNAL OF COMMERCE of cotemporary date says:

Milwaukee's long-suffering lumber dealers concede that their railroad accommodations are better this season than they have ever been before. That, perhaps, is not saying much; for it is certain that no class of business men was ever so injured and oppressed by want of the commonest railroad shipping facilities as the lumber dealers of Milwaukee in the immediate past. There is still a lamentable deficiency of track-room and switches, and railroad dockage; but there seems to be no longer such a "plentiful lack" of cars as heretofore, and the managers of all our railroads show a disposition to exert themselves to the extent of their resources to build up this important commercial interest. Whether this improvement is due to a radical change of heart among the general managers, or whether it means that our older roads have learned a useful lesson in humanity and common sense, from their young and vigorous competitor—the Wisconsin Central, or whether it is a wholesome result of the mighty determination among the farmers and business classes of the west to have a more equitable railroad management, the lumber merchants whom we have consulted are unable to say. Whatever may be the cause, the fact is thankfully accepted as one of the indirect, redeeming benefits of the head-long and ill-considered Potter statute. That statute, in its direct effect, is unquestionably hostile to the lumber interests of Milwaukee dealers, while it is at the same time working cruel hardships to the new great lumber thoroughfare, the Wisconsin Central railway, whose lumber tariff be-

fore this legislation gave ample satisfaction to all its customers.

The most noticeable increase of shipments is over the Western Union line from this city to Freeport, and thence by the Illinois Central south to Dixon, Amboy, Mendota and intermediate towns, and west to Lena, Warren, and other points as far even as Denver. The demand also is unusually good all along the Prairie du Chien division of the Milwaukee & St. Paul railway, and many large orders are being filled from this point in that direction.

Freights remain at the figures established during the war, upon the basis of the highest cost of labor and all railroad materials and when lumber was bringing splendid prices. It is the opinion of Milwaukee lumbermen, and of the MILWAUKEE JOURNAL OF COMMERCE, that a well-managed railroad system could now afford some revision of lumber freight tariffs corresponding to the very marked reduction in the markets for all commodities. It seems like an imposition upon both dealers and consumers, that when the margin of profit on so important a staple as lumber is at the minimum, the cost of its transportation should remain at a fancy figure.

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#### MANNER OF PILING LUMBER IN ENGLAND.

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A gentleman writing from one of the inland towns of England says: THE WISCONSIN LUMBERMAN will be interested to know that lumber yards here are all called timber yards, and the proprietors timber merchants. The stock, instead of being piled flat, as with us, is stood up on end; on account of a desire to economize space, I suppose. Sometimes it is stacked in a sort of long lane like an X, only straighter.

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This first-class magazine, the WISCONSIN LUMBERMAN, is still receiving subscriptions in large numbers at the comparatively trifling price of \$2.00 a year.



## SOUND ADVICE FROM CHICAGO.

## THE FATAL ERRORS OF WESTERN MANUFACTURERS POINTED OUT.

Too Much Sawing Capacity And Not Enough Common Sense—Going It Blind Upon False Principles—Chicago's Trade Threatened By Reckless Consignment For Forced Sale By Cargo—Recent Introduction of the Element of Credit On Cargo Sales—Success of the Chicago Lumber Board of Trade—Its Admirable System of Measuring and Inspection.

CHICAGO, May 25th, 1874.

EDITORS WISCONSIN LUMBERMAN:—

The lumber business of this city is now fairly opened for the season and consignments have reached us from all Lake Michigan ports, also from Canada and Saginaw, and from present indications, an abundant supply is certain.

Logs are plenty, labor cheap, lake freight less than actual cost, money abundant and nothing seems wanting to insure a large production during the current year.

Low prices have been reached compared to former seasons, and still lower rates feared should receipts average as large during the summer months, when yard sales are reduced, compared to spring and autumn business. To this date, since January 1st, shipments to the interior have been large, and if they continue good, the receipts of lumber will be no greater than required.

The great and growing evil of the lumber trade of the lakes is, consigning large amounts to a market for a forced sale by cargo, which is simply selling to the highest bidder for cash, with a limit of but twelve business hours for offers. No lumber market but this could dispose of an

average of three million feet per day at forced sale, and land the same average amount, in addition, daily on docks to which it is consigned from the mills direct, for the space of nearly seven months each year.

With the exception of the highest grades of lumber, there can be no profit by cargo, until the supply is less, and no manufacturer, who has no other way to dispose of his product, will pretend that he has not actually reduced his assets during 1873 and to this date in 1874. Should any claim a profit the present year thus far, they may safely expect to lose it during the dull summer months and after August, when lake freight will advance.

The uniform success of manufacturers since the commencement of the war and immediately after the Chicago fire, has made them too hopeful, and they find themselves in possession of too much sawing capacity, which they are now using to their injury. In addition they seem to have adopted several ideas as correct, which I consider a poor basis for operations:

1. That few, if any, mill owners *besides themselves* have sufficient pine timber to continue business, and that very soon the volume of production must decrease from this cause.

2. That after a dull and unprofitable season, all manufacturer *but themselves* will reduce operations, leaving them a clear field.

3. That in the event of a large business being planned for the logging season, no section of country *but their own* can possibly have snow

for use, and if so the chances are that the logs will be hung up—in the spring.

When it is understood that a business employing, the present year, more capital than any branch of manufacture in the west, conducts its business blindly, as described above, what result can be expected but disaster. The great demand for building material in our new states has, heretofore, prevented a ruin that would be sure in any other business conducted so recklessly.

Were a convention of manufacturers of lumber in session in Chicago, to-day, they could see fully twelve millions of feet of lumber that has arrived during thirty-six hours, eight million feet of this sent here for auction by cargo. If this continues no one doubts the result, as to value, and prices current here to a great extent govern the whole west. I believe a convention held in this city during June or July would be of vast benefit to the western lumber interest. It is important to yard dealers as well as manufacturers, as very many dealers have contracts for lumber to arrive at a fixed price, and in addition have stocks in pile here that decline as cargoes reduce in value.

The new "Lumber Board of Trade," which you noticed in your May number, is a decided success, and under the able management of Hon. A. C. Calkins, its president, is very popular with the trade. Much credit is due Geo. E. Stockbridge, Esq., secretary, for the system he has introduced in its different departments. Among its files can be

found all the lumber journals of the country and the leading papers of all the principal lumber centres.

The system of measuring and inspection it has adopted, is now in successful operation, and an average of seventy men are employed by the "Board," which pays all salaries and receives all fees, which, under this system, have been reduced 20 per cent. The inspection rules of the board have been adopted by both seller and buyer, a result that previous to this season has never been attained. This department is in charge of Peter Fish, chief inspector, assisted by four deputies and is giving entire satisfaction.

It is not out of place to suggest that a convention of manufacturers be held at the exchange room of the board, to include any manufacturer who is affected by sales made in Chicago. The room is at their service, and no better location in the west can be found. There should be at least two meetings annually, one during the sawing season another prior to logging contracts in the fall. I think at such a meeting the greatest source of wonder will be when the sawing capacity of the west is truly known, as compared to the demand for lumber.

Our receipts to date are large and steadily increasing, as all ports can now ship, that supply this market. You have our current prices in your monthly review, so anything of that nature will not interest you. I am pleased to notice that the WISCONSIN LUMBERMAN improves with age and is really a benefit to the lumber trade, and trust that it has a long life of usefulness before it.

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SCALE MEASUREMENT OF HARD WOOD LOGS.

LENGTH OF LOGS IN FEET.

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
10.....	37	40	44	48	51	55	59	62	66	70	75	77	81	84	88	91	95	98	102	106	110	113	117	121	124	128	131	135	139	142	146	
11.....	45	50	54	58	63	67	72	76	81	86	90	94	99	104	109	114	119	124	129	134	139	144	149	154	159	163	168	172	177	181	186	
12.....	53	59	64	69	75	80	85	91	96	101	106	111	117	122	127	132	138	143	148	153	159	165	170	175	181	187	192	197	202	207	213	
13.....	62	69	75	81	87	94	101	108	115	122	129	136	143	150	157	164	171	178	185	192	199	206	213	220	227	234	241	248	255	262	269	
14.....	72	80	87	94	101	109	116	123	130	137	144	151	158	165	174	181	188	195	203	210	217	225	232	239	246	253	261	268	275	282	289	
15.....	82	90	98	106	114	122	130	138	146	154	162	170	178	186	194	202	210	218	226	234	242	250	258	266	274	282	290	298	306	314	322	
16.....	94	103	112	122	132	141	150	159	168	177	186	195	204	213	222	231	240	249	258	267	276	285	294	303	312	321	330	339	348	357	366	
17.....	107	118	129	139	150	161	172	182	193	204	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	
18.....	120	132	144	156	168	180	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396	408	420	432	444	456	468	480	
19.....	133	147	160	173	187	200	213	226	239	252	265	278	291	304	317	330	343	356	369	382	395	408	421	434	447	460	473	486	499	512	525	
20.....	148	161	175	189	202	216	229	242	255	268	281	294	307	320	333	346	359	372	385	398	411	424	437	450	463	476	489	502	515	528	541	
21.....	163	177	191	205	219	232	245	258	271	284	297	310	323	336	349	362	375	388	401	414	427	440	453	466	479	492	505	518	531	544	557	
22.....	179	194	209	223	237	250	263	276	289	302	315	328	341	354	367	380	393	406	419	432	445	458	471	484	497	510	523	536	549	562	575	
23.....	195	211	226	240	254	268	282	296	310	324	338	352	366	380	394	408	422	436	450	464	478	492	506	520	534	548	562	576	590	604	618	
24.....	213	230	247	263	279	295	311	327	343	359	375	391	407	423	439	455	471	487	503	519	535	551	567	583	599	615	631	647	663	679	695	
25.....	231	249	267	285	303	321	339	357	375	393	411	429	447	465	483	501	519	537	555	573	591	609	627	645	663	681	699	717	735	753	771	
26.....	250	270	290	310	330	350	370	390	410	430	450	470	490	510	530	550	570	590	610	630	650	670	690	710	730	750	770	790	810	830	850	
27.....	270	291	313	334	355	376	397	418	439	460	481	502	523	544	565	586	607	628	649	670	691	712	733	754	775	796	817	838	859	880	901	
28.....	290	312	334	357	380	403	426	449	472	495	518	541	564	587	610	633	656	679	702	725	748	771	794	817	840	863	886	909	932	955	978	
29.....	311	334	357	381	405	429	453	477	501	525	549	573	597	621	645	669	693	717	741	765	789	813	837	861	885	909	933	957	981	1005	1029	
30.....	333	357	381	406	431	456	481	506	531	556	581	606	631	656	681	706	731	756	781	806	831	856	881	906	931	956	981	1006	1031	1056	1081	
31.....	356	381	406	432	458	484	510	536	562	588	614	640	666	692	718	744	770	796	822	848	874	900	926	952	978	1004	1030	1056	1082	1108	1134	
32.....	380	406	432	459	486	513	540	567	594	621	648	675	702	729	756	783	810	837	864	891	918	945	972	999	1026	1053	1080	1107	1134	1161	1188	
33.....	403	430	457	484	512	540	568	596	624	652	680	708	736	764	792	820	848	876	904	932	960	988	1016	1044	1072	1100	1128	1156	1184	1212	1240	
34.....	428	456	484	512	540	568	596	624	652	680	708	736	764	792	820	848	876	904	932	960	988	1016	1044	1072	1100	1128	1156	1184	1212	1240	1268	
35.....	453	482	511	540	569	598	627	656	685	714	743	772	801	830	859	888	917	946	975	1004	1033	1062	1091	1120	1149	1178	1207	1236	1265	1294	1323	
36.....	480	509	539	568	598	628	658	688	718	748	778	808	838	868	898	928	958	988	1018	1048	1078	1108	1138	1168	1198	1228	1258	1288	1318	1348	1378	
37.....	508	538	568	598	628	658	688	718	748	778	808	838	868	898	928	958	988	1018	1048	1078	1108	1138	1168	1198	1228	1258	1288	1318	1348	1378	1408	1438
38.....	535	565	595	625	655	685	715	745	775	805	835	865	895	925	955	985	1015	1045	1075	1105	1135	1165	1195	1225	1255	1285	1315	1345	1375	1405	1435	1465
39.....	562	592	622	652	682	712	742	772	802	832	862	892	922	952	982	1012	1042	1072	1102	1132	1162	1192	1222	1252	1282	1312	1342	1372	1402	1432	1462	1492
40.....	592	622	652	682	712	742	772	802	832	862	892	922	952	982	1012	1042	1072	1102	1132	1162	1192	1222	1252	1282	1312	1342	1372	1402	1432	1462	1492	1522
41.....	622	652	682	712	742	772	802	832	862	892	922	952	982	1012	1042	1072	1102	1132	1162	1192	1222	1252	1282	1312	1342	1372	1402	1432	1462	1492	1522	1552
42.....	653	683	713	743	773	803	833	863	893	923	953	983	1013	1043	1073	1103	1133	1163	1193	1223	1253	1283	1313	1343	1373	1403	1433	1463	1493	1523	1553	1583

INCHES IN DIAMETER.

**AT THE EAST.**

Lumbermen in all the eastern markets complain of inactivity of sales and that profits are merely nominal. At Detroit, Toledo, Sandusky, Cleveland, Erie and Buffalo, dealers are proceeding with extreme cautiousness, only buying at their own terms or to supply immediate wants. While there is much complaint, it is evident that in most cases trade all through the season has averaged pretty fair and indeed better than in most other branches of business. There is a very extended and serious mistrust of business ventures; mostly ascribed to the financial panic last fall. Most dealers report considerable falling off in sales during the past few weeks, while some few declare that their trade is keeping fully up to the usual standard at this season of the year. Lumber that has been contracted for had better remain at the point of manufacture than seek market at the Lake Erie ports. Michigan manufacturers have learned that lesson to their cost. The eastern markets are in reality doing considerable business, and fully as much as could reasonably be expected when the general stagnation of all other branches of trade is considered.

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The WISCONSIN LUMBERMAN now has extensive subscription lists in every settlement in the pineries of Wisconsin, Michigan and Minnesota, and in all the river towns and cities of the Mississippi valley, and subscriptions from very many dealers in the interior towns of the western and central western states, and in nearly all the

leading eastern cities. It has also subscribers in all but one of the New England states and in Florida, Alabama, Georgia and Mississippi, as well as in the provinces of Canada.

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**ERIE, PA.**

Erie is rapidly becoming a lumber market of no small proportions. Probably no locality on lake Erie is increasing its lumber business in so great a ratio. In evidence of the fact it may be stated that in 1864 the entire amount of lumber received by lake at the port of Erie, was one million six hundred thousand feet. In 1873 no less than thirty-five million feet of lumber were received by lake and about ten million feet by rail from the interior. The present season business is proportionately active, eleven million feet having been received by lake up to May 25th. The entire business is in the hands of half a dozen firms, who seem to possess the requisite energy necessary for successful prosecution of business in these dull times. Wheeler & Hill are pioneer dealers, who have built up a large trade and a splendid reputation. Ketchum & Co., with headquarters at East Saginaw, Michigan, do a large business. The firm of Geo. Carroll & Bro., are also among the heavy operators, and have a fund of energy and enterprise which alone would carry them through worse times than these. A large planing mill is also operated by this firm. C. H. Walbridge makes a specialty of order trade, and has handled a very large amount this season. His experience and extended acquaintance on the line of the railroads assures

his success. The Erie Lumber Co., and Clemens & Co., are the remaining dealers and acknowledge fair trade and prosperity. W. H. Deming & Bro. have a saw mill, but manufacture only timber and dimension stuff. Their timber is rafted across or down the lake from the Michigan pineries. Their process of rafting timber is simple and effective, although of course short logs could not be handled in the same manner. The method of rafting is merely the boring of holes through the ends of the timber and running cable chains through, connecting the sticks together. A tug then tows them to their place of destination. Lumber is shipped from Erie to Philadelphia, Baltimore and even Washington, while railroad facilities are also excellent for shipping directly south and southwest. So rapidly is the lumber trade of Erie increasing that but few years will elapse before it will rank favorably with that of Cleveland, Toledo and the larger markets on Lake Erie. The right class of men are developing the business and they are meeting with success.

---

#### MAINE DRIVES

We learn from the *Bangor Courier* of the 19th inst. that Messrs. Palmer & Johnson's drive on the Mattawamkeag is coming along well. One of the firm informs him that all the logs are in from the small streams and tributaries, and that the Jellison boom was cut on the 18th inst. and the drive is now at the "Oxbow," or Drew dead water. Should everything be successful the logs will pass Winn about the first of next week, and on or near the 25th instant will arrive at Greenbush. The drive con-

tains about twenty-five million feet of logs and is run by about a hundred men. The second drive will be about half the size of this and will contain all the remaining logs of the firm. Park's drive on the east branch of the Mattawamkeag is doing well and is expected to be at the Jellison boom on the 25th inst., or about the time the first drive gets down.

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#### A CHICAGO VIEW OF THE PROPOSED WILLIAMSPORT CONVENTION.

**The Sentiment of that Great Community of Lumber Dealers Decidedly Against it—Alleged Jealousy of Eastern Manufacturers on Account of Chicago Enterprise—Apprehension of the Abolition of the Duties on Canada Lumber.**

*Correspondence Wisconsin Lumberman.*

CHICAGO, May 28, 1874.

EDITORS WISCONSIN LUMBERMEN:

*Gentlemen.*—You are of course in receipt of the circular call for a convention of lumbermen issued by the West Branch Lumberman's Exchange, partly for that purpose and partly to announce to an astonished community that the "proposition" emanated from Mr. J. Henry Symonds of the *Lumber Trade!* I write for your opinion as to how, in the interest of your northwestern patrons, you shall treat the subject? None of our manufacturers "take stock" in the proposed meeting, and from all appearances none will go. Our board of trade discussed the subject and passed it by, as not of sufficient interest to pass any resolutions, or send a delegation. The prevailing opinion is about thusly: The lumbermen of the Susquehanna find that the log-hashers of Grand River, and some other points in Michigan, having access to railroad shipment, have executed a "flank move-

ment" upon them by sending their lumber down in Williamsport's rear, at, as one of their large manufacturer's recently expressed it, "from two to five dollars per M lower than we have been selling it." Consequently the Pennsylvanians want to get the Michiganders there and induce them to further the general interests of this greatest of the world's industries, (and the Susquehanna, in particular) by uniting in a convention or association, and agreeing "not to put so much lumber upon the market!" Again, it may be that the east, fearful of the abolition of existing duties on Canada lumber by the parcel of idiots styled "Congress," desire to bring all the pressure possible to bear against it by inducing the manufacturers of the northwest to join them in a protest. Our lumbermen care very little about the tariff on lumber, I find, as the "Kankucks" would be welcome to all the profit to be made by shipping their lumber by Chicago to compete in southwestern markets. Still again, our lumbermen take considerable notice of the very palpable odor of Symonds and Boston which pervades the document urging their attendance, and are much disposed to ridicule it. Of course we know that the sole idea so far as he is concerned is notoriety, and I fear that the time and circumstances will conspire to make it a failure in that respect. Unless the lumbermen in your state are more favorably impressed with the idea than ours, and much quicker to respond to any such thing than the average of those in Michigan, there will be a very slim attendance

from the states which put the great bulk of our pine lumber upon the markets of the country. I find quite a feeling in favor of a gathering of the *manufacturers* of Michigan, Wisconsin and Minnesota, to take some measures for controlling the cut, in order to realize better prices in future. I think that by a little united effort on the part of the WISCONSIN LUMBERMAN and the *Northwestern Lumberman* and the constituencies which they represent, there could be effected such a convention next fall or winter, not by proclaiming too loudly, however, that it is solely through your personal instrumentality or your "proposition," but by influencing some of our prominent lumbermen to do the work.

Yours Respectfully,  
CHICAGO DEALER.

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#### RESPONSIBILITY OF THE WISCONSIN LUMBERMAN.

The WISCONSIN LUMBERMAN is *not* responsible for the views of its correspondents. Neither is it responsible for the theories or estimates of articles which it quotes very freely with the greatest care to credit them to their sources.

We are proud of our correspondence, much of which is obtained at considerable cost, and we solicit contributions of opinion and facts from all quarters. We mean also to give our readers the benefit of communication with a number and range of publications to which few or no individuals have direct access. We shall endeavor not to publish anything calculated to mislead yet in matters so important as many of the calculations of lumbermen are, we



cannot afford to be held responsible for any views but those of the WISCONSIN LUMBERMAN.

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#### HEADING AND STAVE BUSINESS IN THE WEST.

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This branch of manufactures which had been languishing for nearly two years past, received fresh impetus last fall; and in this, we see an illustration of that old saying that "It's an ill wind that blows nobody good."

For weeks previous to the panic the facilities of our railroads to move the wheat crop were entirely inadequate to the demands upon them. The panic coming, prices dropped and shipments ceased, and before their re-establishment, navigation had closed and the crop was locked up at home.

And this is where the "ill wind" blew some good—more flour than otherwise would have been, has been manufactured at home, bringing mills that had been idle, or partially so, into almost ceaseless activity. Packages for the product must be had, so the stave and heading mills, that before were running on only a snail-like pace, were called into new life, and new mills were started to meet the great demands of the mills, and the "blues" that had so long affected these classes, were chased away by the smiles that would come.

And not only were these classes at home benefited, but the manufacturers of the machinery were also benefited. They were called upon to lend every energy to the supplying of the demand that had sprung upon them, and to which they

have been unequal with all their facilities. Manufacturers of barrel stock whom we know, who had intended to put in from 1,000 to 2,000 cords of bolts to cut up, have put in double and treble that quantity, and our readers being informed that one stave cutting machine will cut from fifteen to twenty-five cords of stave bolts per day, and a heading machine a like quantity of heading according to the timber and operator, they may get an idea of the extent of this interest, and of what use our forests of oak and basswood are being put to and how rapidly they are going.

In some sections, where these stave mills are and have been situated, the timber is stripped for miles around, until they are, so to speak, "left out in the cold." They can get into the warmth of business life again by taking up their machinery and going to the woods. A good portable engine will furnish the power, which is more than kept supplied with fuel by the refuse from stave and heading bolts, and though there is now, for obvious reasons, a lull in the demand for this stock, we think it is only temporary, and believe that there is a bright future before the manufacturers who have had to "grin and bear it" so long, and we believe it because circumstances have almost compelled people to discover that with our many and late improvements, we make the best and most wholesome flour in the world, and this being understood, orders will come in increasing numbers. The advantages are naturally with us, against all competition, but the manufacturers need

more encouragement from our home people, and the questions, sooner or later, (and the sooner the better) will come up for consideration: What claims have our manufacturers upon us? Are manufactures necessary to our growth and stability?

We present elsewhere descriptions of several new machines and improvements upon machinery which will doubtless interest a large class of our readers. We need not say that we would not (either willingly or carelessly) introduce to their attention anything that is not thoroughly tested and recommended by the most responsible houses.

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#### THE RECIPROcity TREATY AND AMERICAN LUMBER INTERESTS.

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*From the Milwaukee Journal of Commerce.*

By the Treaty of Washington, it will be remembered, American fishermen were authorized to land on the shores of New Foundland for the purpose of curing their fish, and also to take fish within the limits fixed by intermarion law and usage. For this privilege a money consideration was to be given by the United States, which was to be determined by a commission. That commission has been in session at Washington since February 1st, Mr. George Brown representing the Dominion of Canada and being the central figure. It is proposed, on the part of Canada, in the place of a money consideration to re-enact the old reciprocity treaty of 1855, which expired in 1865-6, admitting the products of the Dominion forest mines and farms into the United States free of duty, and it is also proposed to so enlarge the Welland canal and the canal from the Upper St. Lawrence as to enable vessels of a thousand tons to pass from Lake Erie to Montreal.

If manufactures of the United States shall at the same time be admitted duty free into Canada, this arrangement is certainly advantageous and desirable. It is objected by some that such a reciprocity treaty might still fur-

depress our languishing lumber interests. We do not share this apprehension.

In the first place, it is hardly possible that the price of common lumber could remain, or even go, any lower than it now is. We observe in a correspondence of the *Wisconsin Lumberman* for June the statement that Chicago dealers are quite indifferent to competition from this source and are willing to stand all the loss that Canada can inflict on them by shipping south around or through Chicago.

Doubtless, also, the most prudent owners of pine land in the states appreciate the advantage of holding on to a species of property that is rapidly becoming more rare and valuable and of letting the rage for the destruction of forests expend itself henceforth in Canada. It is at all events noticeable that Mr. Philetus Sawyer, the vigilant representative in the house, of Wisconsin's great lumber interests and himself the owner of a large amount of pine lands, has not only failed to oppose the proposed reciprocity treaty, but is known to positively favor it. He is probably actuated by the considerations which have commended themselves to the *MILWAUKEE JOURNAL OF COMMERCE*. Reciprocity seems to be the natural and reasonable means of protection for the United States against the threatened "timber famine" which has lately agitated a portion of the press to such a sensational degree.

Manufacturers of lumber, certainly, have nothing to fear from a larger access to the supply of raw material. By so much as mills now in operation in the states are more numerous, the machinery and appliances more perfect, the experience and skill of manufacturers and operatives greater, than they are in Canada, it is reasonable to expect that our manufacturers would under this treaty be able to import lumber from Canada and to return thither the finished products of lumber. So, likewise, it is probable that United States brewers would get hops from Canada and supply Canada with beer. We understand that the rising manufactures of the Dominion apprehend this contingency, and that there is now some hitch in the commission about the free admission of manufactured articles from the United States. Doubtless the importance is recognized in the proper quarters of making



this treaty reciprocal, in fact as well as in name; and it is hardly to be supposed that the interests of the United States could be surrendered on a point so important as this.

There is still another point in respect to which the reciprocity treaty is to be considered. It is one in which Milwaukee and other lake shore cities of Wisconsin are deeply concerned. The provision in this treaty for the enlargement of the canals and the transfer of American vessels to British waters could hardly fail to create an immense ship-building interest on this side of lake Michigan. Milwaukee is now the terminus of the great lumber railroad of the country, connected by it directly with both the northeastern pineries of the Green Bay shore and with the exhaustless wealth of hardwoods in central and northern Wisconsin. It has the elements of cheap labor and of abundant material in such proportions as to enable it to defy the competition of the world in the construction of large vessels. Heretofore its progress in this industry has been effectually opposed by two obstacles—one a natural obstacle, the want of a passage for big ships to the ocean, the other an obstacle interposed by that product of human ingenuity and fallacy, protective legislation. These obstacles which have thus far protected Wisconsin lumber from getting to the Atlantic in the shape of profitable ships being simultaneously removed by the reciprocity treaty, we may without extravagance predict for Milwaukee in the near future the commercial fame and thrift of another Clyde, where the world's commerce, constrained only by natural laws, shall resort for ships of both wood and iron, built nearest the generous storehouses of nature for the most indispensable materials of human comfort and progress.

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Examine the "Lumbermen's Register" at the end of this volume and report additions or corrections to the WISCONSIN LUMBERMAN PUBLISHING Co., 64 Oneida street, Milwaukee, Wis.

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The WISCONSIN LUMBERMAN, at \$2 a year, is the cheapest first-class magazine in the United States.

#### THE PRESQUE ISLE IRON WORKS.

Probably no firm name is more favorably known to the practical readers of THE WISCONSIN LUMBERMAN than that of the STEARNS MANUFACTURING Co., the proprietors of the celebrated Presque Isle Iron Works, at Erie, Pa. Only a personal visit to the establishment will serve to impress one with the extent, magnitude and perfection of this, the largest manufactory of saw mills and mill machinery on the continent. In 1855 Mr. E. H. Stearns commenced the foundation of the present business by the invention and building of head-blocks for saw mills. The business at that time occupied a small brick building, which, although yet standing, is entirely lost sight of in the immense structures surrounding it. From twelve to fifteen men were employed. The head-blocks became favorably known, business increased, Mr. Stearns was active in perfecting and introducing patents and improvements on mill machinery, until now a great manufacturing corporation is established with works covering an entire block in extent and giving employment, when running at full capacity, to three hundred men. A recent visit to the Presque Isle Iron Works affords us opportunity to place some interesting facts before our readers. The office and works embrace the square on East Tenth street, between Holland and German. Each department of labor is perfectly systematized by having a separate and distinct building or shop for its particular purpose or use. The manufactory makes a specialty of building such machines

as Mr. E. H. Stearns has himself originated or such as have been suggested by persons in the employ of the company, and have become very popular among manufacturers of lumber. These machines may be mentioned as circular saw mills, gang mills, muley mills, gang edgers, lath mills, gang bolters, anti-vibrating carriage wheels and track, head-blocks, rossers for removing bark and grit before the saw, and log turners and jackers. The company, believing in satisfying themselves before they attempt to satisfy customers, have conveniences, in every department of their works, for thoroughly testing all new machines and parts of machines made, and therefore when a machine leaves the shop it is known positively that it is in good working order. The greatest care is taken in finishing the machines perfectly. No rough casting is ever allowed to leave the establishment. From the smallest steel-work to the great casting of the saw frame, everything is smoothly and perfectly formed. The arbors are made only of the best steel, forged under the largest hammers in the country and in the best manner. A great planer, weighing eighteen tons, planes both the upper and lower surface of every saw frame, giving it a smoothness and finish which is a special feature of the Stearns' mills, and allows them to lie perfectly square on their bed. An important feature of the pulleys manufactured, is that the centers are cast solid instead of with center arms as was the case formerly. The improvement also balances the pulleys much more exactly. Every device known to the science of mechanics, whereby labor is saved or work accomplished in a more perfect and satisfactory manner, is represented in the machinery for manufacture at these works. Great differential pulleys allow workmen to handle immense weights with perfect safety and ease, and it would seem that no facility of labor is wanting. It is a very difficult matter to particularize all the different points of superiority which characterize the machines sent out of the shops of the Stearns Manufacturing Co., and still more difficult to give any adequate idea of the process of construction and manufacture. Yet there are a few general items of interest which may be enumerated. Every pinion used in any of the machines is of the best steel and carefully fitted and finished. All of the boxing is perfectly cast and is lined with babbet metal manufactured at the establishment. New lining to any boxing made can be procured at any time on order, and indeed, it may here be mentioned, that so carefully are all machines made according to their particular class and No., that the factory can at any time duplicate exactly any portion of any machine which has ever left the shops. Every part of every machine is made exactly in accordance with established patterns and each part is accurately tested by certain standards. Should any part vary ever so slightly from the original and perfect pattern, it is immediately thrown aside and a perfect part used. Test gauges are used on all lathe or drill

work with the greatest observable care. One noticeable machine was a mandrel press by which mandrels are gradually pressed to their place, avoiding the danger of springing them that has resulted from the old practice of pounding them in with sledge hammers. A new and valuable saw guide has just been perfected which has many points of superiority. Among the most important works now accomplished by the company is the building of their "Improved Automatic Oscillating Gang Mill," running thirty-seven saws and weighing forty-three tons. Three of these mills have been built, and are in use in Florida, Michigan and in Keator's mill at Moline, Ill. Should any part of any machine built by the Stearns Manufacturing Co. give way or wear out, it can be immediately duplicated by telegraphing to the company stating kind, number and part of machine, as the stock of duplicates carried by the firm is very extensive. The company have their own lumber yard, teams, stables, and, in fact, everything necessary for the successful and rapid operation of their extensive works. The mechanics employed are of the most skilled class, and are under the general supervision of a very thorough and competent gentleman, Mr. W. F. Parish, foreman of the works. A very thorough system of checks, numbers and a place for everything, very much simplifies the labor of controlling men, their time and work, and facilitates business generally. There are also genuine curiosities at the Presque Isle Iron Works which alone are worth seeing. There are two gas wells at the works with respective depths of 542 feet and 1,300 feet. Inexhaustible and constant streams of gas flow from these wells to the great boiler furnaces and supply a large proportion of the fuel necessary to run the engines. The shops and offices are also lighted with this natural gas. The wells have furnished this gas during the past four years, and although immense quantities are used in the furnaces there seems to be no indication of the supply failing. Perhaps no better evidence of the estimation in which machinery manufactured by the Stearns Co., is held, can be given than the fact of the growth of the works from a small factory for headblocks to its present rank as the most extensive saw mill manufacturing establishment in the east. The inventive genius and application of Mr. E. H. Stearns has given us a notable example of business prosperity connected with the general progress and improvement. We are indebted to Mr. D. B. Callender, Sec'y. of the company, and to Mr. W. F. Parish, the general foreman, for courtesies extended and services rendered in our very pleasant visit to the Presque Isle Iron Works. We advise our readers who may be so fortunate as to visit Erie, to improve the opportunity for examining the works we have thus briefly described. We would also suggest to the lumbermen who are so soon to meet at Williamsport for the purpose of organizing a national association, that after the convention, if an excursion or other recreation be in order, nothing could result more to their advantage and pleasure than a trip to Erie and a visit to these celebrated works. The time and money necessary to such an excursion would be profitably invested.

Table Showing Number of Feet in Bill Stuff and Timber.

	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
2x4.....	8	9	11	12	13	15	16	17	19	20	...	...	...	...	...
2x6.....	12	14	16	18	20	22	24	26	28	30	32	...	...	...	...
2x8.....	16	19	21	24	27	29	32	35	37	40	43	...	...	...	...
2x10.....	20	23	27	30	33	37	40	43	47	50	53	57	60	...	...
2x12.....	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
2x14.....	28	33	37	42	47	51	56	61	65	70	75	79	84	89	93
3x4.....	12	14	16	18	20	22	24	26	28	30	...	...	...	...	...
3x6.....	18	21	24	27	30	33	36	39	42	45	...	...	...	...	...
3x8.....	24	28	32	36	40	44	48	52	56	60	64	68	72	...	...
3x10.....	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
3x12.....	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
3x14.....	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140
3x16.....	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
4x4.....	16	19	21	24	27	29	32	35	37	40	43	...	...	...	...
4x6.....	24	28	32	36	40	44	48	52	56	60	64	...	...	...	...
4x8.....	32	37	43	48	53	59	64	69	75	80	85	...	...	...	...
4x10.....	40	46	52	58	64	70	76	82	88	94	100	106	112	118	124
4x12.....	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
6x6.....	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
6x8.....	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160
6x10.....	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200
6x12.....	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
8x8.....	64	75	85	96	107	117	129	139	149	160	171	181	192	203	213
8x10.....	80	93	107	120	133	147	160	173	187	200	213	227	240	253	267
8x12.....	96	112	128	144	160	176	192	208	224	240	256	272	288	304	320
10x10.....	100	117	133	150	167	183	200	217	233	250	267	283	300	317	333
10x12.....	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400
12x12.....	144	168	192	216	240	264	288	312	336	360	384	408	432	456	480

FENCE BOARD TABLE.

No. of Boards High.	One Mile.	Half Mile.	Qr. Mile.
One.....	2,640 feet.	1,320 feet.	660 feet.
Two.....	5,280 "	2,640 "	1,320 "
Three.....	7,920 "	3,960 "	1,980 "
Four.....	10,560 "	5,280 "	2,640 "
Five.....	13,200 "	6,600 "	3,300 "

THE APPREHENSION OF A WOOD FAMINE.

What the "Poor Drives" of this Season Suggest—The Lumber Trade of Newark, New Jersey.

Correspondence Wisconsin Lumberman.

WISCONSIN LUMBERMAN PUBLISHING CO., MILWAUKEE, WIS.,

Gentlemen:—I have the pleasure of acknowledging receipt of the May number of your journal. I have looked it over with considerable interest, and find it replete with very valuable statistical information. I am very glad to see you showing up the evils of the great waste going on in American forests, and the consequent changes for the worse of our climate. It is a subject on which you cannot say too much; and if all who have the shaping of public sentiment would only wake up to the momen-

tous consequences involved, they could achieve much by an united action in averting the dire calamities which are sure to overtake the northern and middle states at no very distant day. I notice what you say about the prospects of a poor drive for this spring's operations. Does it ever occur to these people who are engaged in denuding our forests by willful waste, that these spring drives are destined year by year to become more and more precarious? Do they never apprehend that they themselves may see the day when millions upon millions of feet are hung up, not to wait for a better season, but to rot upon the ground where the impious axe has laid them, without a possibility of ever reaching a market? The country—the eastern and mid-



dle states then feeling what has for some time past been prophesied—a *wood famine*? I shall commend your magazine to the attention of our membership. The lumber trade in our city is an important one—some one dozen concerns are engaged in the business and handling about 80,000,000 feet. This number of the **WISCONSIN LUMBERMAN** is a valuable contribution to our library and I shall preserve it for reference.

Thanking you for your courtesies,

Very truly yours,

ROB. S. SWORDE,

*Secretary.*

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#### THE BEST KIND OF DRUMMER.

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*From the Milwaukee Journal of Commerce.*

An advertisement in your business paper. It has most of the merits and none of the vices of the "traveling man," besides many advantages that are entirely its own.

It travels in all directions at once.

It visits your customers every week.

It interests them in your town and is building up the general prosperity, while it is faithfully transacting your particular business.

It talks with thousands of tongues, and has the confidence of its hearers.

It doesn't get drunk.

It doesn't play faro.

It doesn't lie—very much.

It doesn't bring in any supplementary fancy bill of "expenses."

It requires no "commissions."

It doesn't swell around on the credit and name of your house.

It never gets mad and threatens to transfer its good will to a competitor in business or a rival town.

It never sets up in business for itself on the credit it has built up at your expense or has artfully filched from you.

It doesn't add so much to your store expenses as to reduce to zero the margin you would like to offer good customers.

It doesn't cost you many thousands of dollars a year—at the most, only a very few hundreds.

It brings your customers to you and makes them your personal friends.

This is what this best kind of a drummer does do—and doesn't do. Merchants the country over are complaining that store expenses are eating them up. They are finding that the system of competing through traveling salesmen has been carried to a ruinous point. Close times are teaching them a lesson or two. Consumers are contracting their wants because of the extra expenses that now have to be added to the legitimate cost of producing and distributing goods. A healthful reaction must come. It is already begun. The wisest and shrewdest merchants and manufacturers are beginning to find out what kind of "drumming" pays. Now is a favorable time for a little wholesome contraction. Those who are wise enough to see it, will stop doing an enormous business without profit, or at a loss, and will begin to do a reasonable business at a fair remuneration. Those who blindly persist in the present extravagant high-pressure, unnatural, inflation-times plan will presently go under and leave a clear field to the sensible ones. The jobber who pays only three or four hundred dollars a year in advertising can ruin the market for the one who pays fifteen to twenty thousand dollars for oily-locked, oily-tongued, swaggering, bumming drummers. Consumers and dealers will speedily find out where they can buy without paying for so expensive a luxury.

We have no hostile design upon our friends, the commercial drummers. We have no particular wish to take the bread out of their mouths—nor the cigars and drinks. Our experience has proved that those merchants who use the **MILWAUKEE JOURNAL OF COMMERCE** the most liberally, and even the most prodigally, as a consequence invariably make profitable work enough to keep their superfluous drummers busy *at home*.

We know what we are talking about when we tell business men that a good advertisement in a good commercial paper is the best kind of a drummer.

## THE BOOM SHEERING PATENT CONTROVERSY.

Argument of Mr. Edward N. Dickerson Before the House Committee on Patents—Grounds of the Opposition of Mr. Levi W. Pond and the Eau Claire Lumber Co. to the Proposed Repeal of the act of June 10, 1872—An Able Statement of Their Side of the Case.

We present in full the argument recently made by Mr. Edward N. Dickerson before the committee on patents of the house of representatives. The case is one involving immense interests and affecting all lumbermen who do business on the great swift-flowing streams of the west. There are now pending before congress two bills proposing to either repeal or modify recent national legislation confirming patent rights to Mr. Levi W. Pond for which, it is alleged, he did not apply soon enough under the ordinary patent law. These bills are opposed by the learned counsel of Mr. Levi W. Pond and the Eau Claire Lumber Co.

Whatever the views or the impressions of our readers and cotemporaries on this matter may be, we presume that they will be interested to know the precise grounds on which the claimants of so important a patent stands :

If your honors please, a simple statement of the facts of this case, as they are exhibited, in part by the papers filed by the petitioners, and as they will be more fully established by evidence, that does not depend upon the uncertain memory of men, I am satisfied will convince you that it is your duty, as the senate committee found it to be their duty, to report that the proposed bill ought not to pass. In order that you may the better understand this question, a glance at the invention, the object proposed, and the state of the art in which this invention was made, will be necessary. The problem was, in effect, to erect a swing-gate across a river, so that it would permit the river to flow unobstructed beneath it ; so that it would arrest anything floating upon the surface ; and so constructed that it could be readily opened and shut, to permit the transit of steamboats, rafts, or other objects which required a pass-

age. That was the problem—a swing-gate across a river. Obviously it was not a new want ; for whenever logs are floating down a river, it had been always desirable to arrest them and “sheer” them into a receptacle to prevent their escape ; and the great losses of logs experienced on the Mississippi river and other streams, for the want of such a gate, had produced a serious diminution in the value of the timber lands, and in the fruits of the labor expended in procuring the timber.

The manner in which this problem had been attempted to be solved, before Mr. Pond’s invention, was this : a floating timber or a “boom,” was tied fast by its upper end to one bank of the stream, and a rope or chain attached to the lower end, was wound upon a windlass fixed on the opposite shore, by means of which the boom was drawn across the river, and held against the force of the current, and the impact of the logs that might rush upon it. In long booms they supplemented the windlass on shore by anchors sunk in the river, at intervals across its width, to which sections of the boom were attached by chains, and so held in place. By that contrivance they could more or less successfully hold a boom across a river, and “sheer,” as the term is, the surface current, and with it the floating logs, into some receptacle along the shore.

In 1859, there was a company on the Chippewa river known as the “Half-Moon Lake Canal Company ;” and I beg to call your honors’ attention to the names of the members of that company which I am about to mention. Daniel Shaw & Adin Randall, partners, who, with two others, constituted that company ; but Shaw and Randall are the two persons whose names I would particularly fix in your minds.

For about two years, before 1859, that company had been endeavoring to convert “Half Moon Lake,” from which an artificial channel had been cut to the Chippewa river, into a receptacle for logs, into which they might be “sheered” out of the river, and there preserved until they were needed to be sawed, or to be made up into rafts. And the problem attempted by this company was to make a boom that would stretch across that river, and switch these logs into “Half Moon Lake ;” so constructed that it could be easily and quickly removed and replaced, to permit steamboats, or rafts



formed higher up stream, to pass. The thing was to hang a swing-gate there. And this, Adin Randall, one of the company, was engaged for two years in trying to do; and he had made the ordinary boom, chained fast to one shore of the river, anchored partially by anchors, and closed by a rope wound on a windlass stationed on the opposite shore. But obviously a machine of that kind was very inefficient; because when it had to be moved out of the way to let a steam-boat pass, before it could be got back into place, by this cumbersome and slow operation of the windlass ashore, a vast amount of logs, if they happened to be there, would escape. It was like a farm gate, opening to allow a wagon to pass, and so slow in closing that the live stock in the field would all run away before it could be shut again.

Daniel Shaw and Adin Randall, therefore, had failed in their attempt. They found Half Moon Lake unprofitable; because a receptacle for logs is only valuable when you can stop the logs, and get them into it without serious losses while the gate is open; and they made a written contract with Mr. Pond in 1859—and we have it here—which is so much better than mens' memory, that I will refer you to that. In that contract he undertook to run the logs into the lake for three years, at so much a thousand; Adin Randall having failed to do the thing successfully for himself and his company. And a curious fact appears in that contract; which is, that they bound Mr. Pond to construct the old-fashioned boom, with anchors and chains. Now this Adin Randall is the man, who, it has been stated to your honors, was the inventor of this new boom; and yet he bound Mr. Pond, by a written contract, in 1859, to build the old-fashioned chain boom, and to work it there—himself having tried it for two years, and failed.

Perhaps Adin Randall did not want this new invention of his to become public, and was therefore careful not to build it himself, and to bind Mr. Pond not to build it; perhaps he exhibited an unusual degree of secretiveness in regard to it; but perhaps he did not invent it, which is more probable.

The parties to this contract were Mr. Pond and Mr. Allen, partners, on the one side, and this Adin Randall, Daniel Shaw, and Ingraham & Kennedy on the other side.

Mr. Pond built the old-fashioned boom

in the winter of 1859, according to the stipulation of his contract. He set it in operation in 1860, and worked it there during that year. He was getting so much a thousand for the logs he "sheered" into this Half Moon Lake in 1860, but he found, as Adam Randall had found, that the old-fashioned boom lost too many logs, and that his contract was a losing one; and in 1861 he conceived the idea of his invention, and made his first experiments with it. His idea was to construct a boom, which would open and shut across the river independent of chains, anchors, or windlasses on the opposite shore, and without any external aid. It looks like a paradox. The problem, as proposed by him, is almost unthinkable when it is first presented. I have never heard of it until recently; but since it came to my knowledge I have presented it to different engineers and scientific men among my acquaintances, and I have yet seen but one man, and he is an eminent scientist, who could solve it, even when aided by the information that it was a practical fact; but the difficulty is a thousand times greater when the mind is unaided by that suggestion, and has to think of the possibility of such a thing before it is known that it is possible at all.

What, then, was this thought which Mr. Pond conceived? It was, that a stick of wood might be set afloat in the river, tied fast to the shore by one end, and that it would swing by itself up stream, and stretch itself across the river, holding itself there against the rushing torrent and its headlong freight of logs, as if anchored to the rocks beneath the flood. That seemed very like lifting oneself off the ground by pulling at one's boots.

I have here a little model of the thing as it was ultimately arranged, which will make it plainer. Here is the boom, which is nothing but a stick of wood about three feet wide and one foot deep, and as long as needed to stretch diagonally across any river. Hinged fast to this boom are several boards, wider than the depth of the boom, and so placed that they will lie close against the narrow side of the boom when not in use, or will stand out at right angles to the boom when required to do their work; and they are controlled by a rope which will draw them out from lying along the boom so that they will stand out at any required angle to the side of the boom.

Throw this boom into the river, holding fast to one end of it, and letting the wings go with the current, and they will fold themselves close along the boom, and the boom itself will trail down stream with the current; but draw upon the rope which controls these wings, and they will stand out across the current and at right angles to the centre line of the boom, and on one side of it. And as the water rushes against these wings on one side of the boom, it is obvious that the force of the current tends to drive the boom sidewise, since its upper end is made fast, and the whole machine cannot float off with the stream; and, as a consequence, the lower end is driven across the current, and there is the swing gate. Now let go the rope, and the current shuts up the wings again, and the boom trails with the stream like an anchored vessel, and the swing-gate opens in a moment. That is the machine Mr. Pond invented; and I say it is a product of genius.

He began to do that in 1861, and did not succeed that year; but in 1862 he succeeded. In 1861 he had it with wings, but they were not hinged. Then, whatever effect they would produce was a constant, permanent effect, and the boom could not be opened and closed quickly any more than it could before; and the effect of these permanent wings had to be overcome by a windlass on shore, with a rope to the lower end of the boom. The next step was to make that boom so that the current would swing it either open or shut; and to do that he attached the wings by hinges, and linked them together by chains or ropes, which could be drawn taut or let go; and there was the swing-gate. That was in 1862. But difficulties occurred in managing these wings all together, and other experiments had to be tried in perfecting these details, which was not accomplished for some years after; because, as your honors know, these experiments have to be tried in a very short time in the spring of the year, when the river is high, and when the logs that have been gathered during the preceding winter come down, and then the season is over. It is like a harvesting machine; there are only a few weeks in the year to experiment with it, and all the rest of the year is idle time. It is not like a machine that can be tried every day in the week, and every week in the year; but it can only be tried during a short period each year, when the

problem is to be worked. Therefore Mr. Pond had a very little while to experiment with each year in order to be able to determine whether it would work well or not. He must have a rushing river, because in slack water it cannot be tested. He must not only have a rushing river, but it must be full of logs; because, perhaps the boom might stand where the water was slack and the logs few, and yet not bear the impact of a mass of logs rushing down upon it like a battering-ram. So that the problem had to be worked out slowly—experimentally—and it required some years to do it.

In 1864 two of Mr. Pond's neighbors—one above him and one below him—seeing this thing experimented with, copied it. Perhaps three did; but certainly not more than three. There is some discrepancy in the testimony about one date, and I will therefore admit that there were three who copied this thing—Porter & Moon and Bassey & Taylor in 1864, and the Lafayette mills in 1865 or 1866. At this time Mr. Pond was very poor. He had lost money by his contract and in trying these experiments, to see if he could make his contrivance operate, while he was under contract to run in these logs; and he had to quit and go at something else to support his family, while he could recuperate a little, so as to enable himself to go on again with his experiments. In the meantime these three mills copied his boom.

In January, 1868, Mr. Pond found a friend in Mr. Joseph Gilbert, who was interested in the lumber business there, and he advanced the money necessary to get a patent, and paid Mr. Pond for a share of the invention by relieving him of some of his debts. In making these experiments Mr. Pond had got into debt, and Mr. Gilbert discharged those debts for him. On January 28, 1868, he applied for a patent, and up to that time there was no boom in existence except the one he had made at Half Moon Lake, and those two or three that were made by his neighbors who copied from him; unless it be true that on Black river this invention had been in common use for ten years before, as there are affidavits here to prove. In August, 1868, this patent was granted.

In the spring of 1868, after the patent was applied for, the "Beef Slough Company," who owned a site for log-working on the Chippewa river, imitated this boom, and set it to work upon the river,

and they went on operating with it after the patent was taken.—(Petition p. 14.)

In 1868 Mr. Pond gave them notice that they were infringing his patent, and made a demand upon them. They offered to pay fifteen hundred dollars for the use of it on that great thoroughfare, which is eighteen or twenty miles long. It is said to be a very important situation, and they offered to give only fifteen hundred dollars for the invention in 1868-69, which was declined. It has been stated here, and probably has been argued to this committee—I did not have the pleasure of being here—that these patentees never made any claim, and did not know anything about their rights; but here was notice and a demand. In 1869 the Beef slough Company, by its secretary, gave Mr. Pond a certificate in writing of the value of that invention, which is in existence, and we will have it here; and this Half Moon Company, composed of Shaw and Adin Randall, (who died in 1868,) and Mr. Buffington, (whose affidavit is among these printed papers.) and others, paid \$2,000 to Mr. Pond and his associates, the owners of this patent, for the privilege of using this boom on that river, with certain limits beyond the place where they built the first one. They gave two thousand dollars for the license, and then every man of them signed a paper certifying that Mr. Pond was its inventor, and recommending it to the public as follows:

*To all interested in movable and adjustable sheer booms:*

"We, the undersigned lumbermen and log-owners on the Chippewa river, especially take pleasure in certifying that we have for several years used, and have seen in practical operation, the patent sheer boom *invented and patented by Levi W. Pond*, of West Eau Claire. It has stood the test of the highest freshets, is easily and cheaply constructed, and can be worked with more safety and less expense than any other movable boom we have ever seen or heard of.

We cheerfully recommend it to the notice and use of all those who require the use of such an invention, and we are sure that every practical lumberman will readily see its advantages.

"EAU CLAIRE, Wis., Dec. 6, 1870."

And by whom do you suppose that is signed? Who does my friend suppose it was signed by? Daniel Shaw & Company, Ingraham & Kennedy; those were the two parties who were the Half Moon

Lake Company in 1859, along with Adin Randall, when Mr. Pond came to their assistance. Prescott, Burdett & Co., Smith & Buffington—Buffington's name is now on these papers opposing Mr. Pond—A. J. Hayward, and Sawyer, Son & Hayward. Now, these persons paid *two thousand dollars to Mr. Pond* and his associates for the right to use that invention for a certain distance on the Chippewa river, and certified that they knew he was the inventor of it, and recommended it to the public as valuable. And yet this same Shaw, and this same Buffington are here to-day swearing, in substance, that they do not believe he was the inventor. I merely mention this as a warning to these persons not to sign their names to such papers when they may wish to swear otherwise in after years. If they all had known what was in the future, they would not, perhaps, have written books. "Oh, that mine enemy would write a book," says the wise man. These people have written books, and here they are—come home to judgment—and they expose the falseness, the hypocrisy, and the meanness—the contemptible meanness—of this attack upon Mr. Pond; because, may it please your honors, these are the very men whose property this inventor saved. He went there when they could not use that Half-Moon lake which they had bought, because they could not sheer their logs into it. This Adin Randall had failed at it; and then the plan they had devised failed; and then this inventor came and saved their property—made it valuable—and I am told that there is a village now of two thousand people around this lake, all dependent on the business which this boom has developed there.

*Mr. Prentiss:*—A population of four thousand.

*Mr. Dickerson:*—Thank you. I presume all these gentlemen know about it here; I do not, of course. And all that has resulted from the fact that Mr. Pond made this invention by which their logs may be stopped at this point; because, if they cannot switch their logs into the lake, that town has no business there. And this is the man who saved their property; and in the days when they were nearer to the fact, and felt a little more gratitude in their hearts, they paid him two thousand dollars, and recommended him to the public; but now they come here and try to swear him out of his rights.

Then in 1872, the Mississippi and Rum river company bought this patent for ten thousand dollars for another station, about thirty miles of the Mississippi River, from St. Anthony's Falls, up. Mr. Pond and his associates warranted their titles, and they held these booms under warranty of title from this inventor, just as Shaw & Buffington do; a warranty which, so far as Shaw & Buffington are concerned, they are coming here to destroy after having paid for it.

In 1870 Mr. Pond was advised that his patent was liable to objection, by reason of the fact that he had not applied for it soon enough; that while these experiments were going on, and while he was in poverty, two of his neighbors had copied his invention in 1864, and put it into use and that this fact might defeat his patent, and he came to congress for relief.

And what was that relief which he asked and received? I will tell you. By the general patent law an inventor is permitted to make and sell his invention to the public before he applies for a patent; and no patent shall be held to be invalid by reason of such purchase, sale, or use prior to the application for a patent as aforesaid, except on proof of abandonment of such invention to the public, or that such purchase, sale, or prior use has been for *more than two years* prior to such application for a patent."—(§ 7, act Mar. 3, 1239.)

The object of this provision is to enable an inventor to try his invention, and ascertain whether it is worth patenting; and it was supposed that *two years* were enough for that purpose generally. The term might have been as well fixed at four years, so far as there is any principle in it. In this case, however, under the peculiar circumstances of it, congress thought that the two-year privilege which all inventors enjoy, ought to be enlarged to include the prior use of Mr. Pond's invention by others, which began in 1864—less than four years before his application for a patent—and they passed an act which relieved him from the effect of the prior use of his invention for *more than two years*; and that is all there is of that act. It was in strict accordance with the spirit of the general law, and was an act of discretion which congress had a perfect right to pass, and which was eminently just and wise in this case. The act is in these words:

*Be it enacted, &c.* That the rights described in the letters-patent granted on the

fourth day of August, 1868, to Levi W. Pond and Eau Claire lumber company, of the county of Eau Claire, and state of Wisconsin, and citizens of the United States, to an invention therein described and referred to, *granted, confirmed and extended* to the said Levi W. Pond and the Eau Claire lumber company, their heirs and assigns, for the full term of 17 years from the 1st day of June, 1870, *notwithstanding that said invention may have been to some extent possessed and enjoyed by the public prior to the date of the application of for said letters-patent,* which was filed on the 23d day of January, 1868, said invention so granted and confirmed being described in said letters and application as an "improved device for sheering booms; letters-patent number 80 663, dated Aug. 4 h. 1868. Levi W. Pond, of Eau Claire, assignor to himself and Eau Claire lumber company, of same place;" *Provided,* That all rights and privileges heretofore sold and granted by said patentees to, make, construct, use, or vend the said invention, and not forfeited by the purchasers or grantees shall inure to, and be enjoyed by, such purchasers or grantees respectively, as fully and upon the same conditions during the period hereby granted, as for the term that did exist when such sale or grant was made.

"Sec. 2. That any person who had, more than two years prior to the date of the application for said letters-patent, bona fide erected or constructed any such machine or structure for the purpose of putting said invention into use in any of its modifications, shall have and enjoy the right of using said invention in any such specific machine or structure so actually erected more than two years prior to the date of said application for said letters-patent as aforesaid, in all respects as though this act had not been passed: *Provided, however,* That no person without grant or license from said patentees, or their assigns, shall have or enjoy, by virtue of this act, any other or greater privileges or rights than he would have or enjoy if this act had not been passed."

Now, what are, "*the rights described in the letters patent?*" The congress of the United States has no power, either by general or by special law, to grant to a man a monopoly of anything which belongs to the public. It may and does grant him a patent for his own invention, but no more. If he is not the inventor of it congress cannot give it to him, and it



has never pretended to do it in this or any other case.

The patent itself specifies the nature of the grant, which is to the patentee as the *first and original inventor*; and if he is not so, he takes nothing by the patent. The present act does not propose to enlarge these rights in any way, but it proposes to relieve them of the *two-year limitation* imposed upon them by the act of 1839, and to confirm them as they stand on the face of the patent, notwithstanding "that said invention may have been to some extent possessed or enjoyed by the public prior to the date of application for said letters patent." Without this the patent would have been good, "*notwithstanding that said invention may have been possessed or enjoyed by the public for two whole years before the application.*" With this act, it is good, notwithstanding its use for *more than two years*, and that is all; and when he comes into court, and it appears that he is not the first inventor of the thing patented, his title is gone, and is not in any degree strengthened by the fact that congress had enlarged the two years' privilege for him. This is well known to the petitioner here, who are defendants in suit; and they have pleaded in their answer that Mr. Pond was not the inventor of the thing patented; and if they prove that, the case is ended.

But they knew well enough that this defence is groundless; although they have several affidavits which, if true, establish it. If they believed that this invention was in use on Black river from 1852, down to the present time, they would not be spending thousands of dollars to procure the repeal of an act of congress, when for ten dollars they could defeat this patent by calling these witnesses before an examiner, in the pending case now at issue, and there proving what must be known to thousands of persons, if it be true, that for years these boons were in use in several places in a public river in Wisconsin.

Convince any judge of that and the case is ended. Indeed we would not trouble them to show it to any judge. Let them show it to us, and we will go no further.

But they undertake to impose upon this committee the idea that this act not only protects this inventor in his invention, notwithstanding that his invention went into use more than two years before he applied for a patent; but that it takes

it away from a prior inventor, and gives to him that prior inventor's invention. That is their proposition and it is an absurd one. It would not stand one moment anywhere. In the first place, there is no such power. If congress undertook to do it by direct act, the courts would set it aside at once; because the power of congress under the constitution is the power to *secure to an inventor or discoverer the thing invented.* That is the only power that you have in congress; you cannot, in violation of common law and common right, grant a monopoly. Charles I. lost his head trying to do that in England. You cannot give a right to a man to sell all the horseshoes in the United states, or a monopoly of all the bread, which is what these petitioners pretend in their brief has been done in substance, in this case; you could not do it if you desired to; if you attempted it, the courts would set it aside immediately as being a violation of the constitution.

But these petitioners complain that this act interferes with "vested rights;" which they suppose to be the right to use another man's property without his leave; and they derive these *vested rights* from the circumstance that the invention was in use before it was patented. Well, if this act interferes with vested rights for that reason, so does the general law of patents; because it prevents the public from continuing the use of an inventor's property after he has patented it, although they may have had the use of it for two years before the application for a patent; and congress ought to be called on to repeal that law, for the same reason they are called on to repeal this.

This act however secures to all persons who were using Mr. Pond's invention, more than two years before his application, the right to continue its use; so that while it protects him, it also secures them, and leaves all others in the same situation as the general law would leave them.

On this point permit me to read a very wholesome opinion of Judge McKennan in answer to infringers who had been using an invention for several years before it was patented, while the inventor has been prevented from getting his patent by an unlawful decision of the patent office.

"If they appropriated it without consulting him, he was passive when he knew it, because he was powerless to prevent them, he is not estopped from asserting

his right when he is in a condition to enforce it. If they took the risk of using what they did not own, the owner's helplessness then will not shield them from accountability to him now.

This is the only effect of the proof; for although the applicant publicly used his invention after he applied for a patent, he did not intend to abandon it, as has been already shown; and as he had a clear right so to use it, the law does not presume from that fact that he assented to its use by others. (*Ryan vs. Goodwin*, 3 Sum., 519.) Nor is this supposed estoppel invigorated by the fact that the invasion of the patentee's rights has been widespread, and that all who may be found in that category, may be held liable accordingly. Whoever reaps what he did not sow wrongfully appropriates what belongs to another; and equity will sustain the hand of the rightful owner against him." (*McMillan vs. Barclay*.)

Those are the principles of equity and honesty that characterize the dealings of the courts with contracts between the public and the inventor; a contract which is represented in that piece of parchment called a patent, that the public will protect him in the thing he invented; and people who take it without asking his leave, even though his patent was not then in existence, although they had the benefit of its use without compensation until the patent was granted, yet cannot, when the lord of the harvest comes and claims his own, be permitted to withhold it from its true owner.

But how are these objectors situated? In 1868, when this patent was granted, the petitioning company, represented here by these gentlemen, did not exist. They were organized January 2, 1871, as the Mississippi River Logging Company, (page 16 of their brief,) three years after this patent was granted. And what was their business? It was buying and selling logs, and running them down the rivers. They did not have any booms, or booming business. It was only to buy and sell logs. In December, 1872, (page 17) they leased the "Beef Slough" boom, and began to infringe the patent. The act confirming the patent was passed June 10, 1872, and six months after that act was passed, this company, for the first time, had any interest in the question. Four years after the patent was granted, and six months after the act which confirmed it, these people came in and leased from the Beef Slough company, who had

offered fifteen hundred dollars for a license and had been refused; and who had been put under a notice that they were infringers in 1869. Now, in what kind of position do they stand here before your honors? After the patent and after the confirmatory act, they began to infringe, and then come here and say, "Oh, we are ruined; we are plundered by this act." Is not that impudence?

The United States sells a section of land, and by some mistake the patent is wrongly described. Then presently the owner applies for relief, and by act of congress the defect in the patent is remedied. After that somebody squats on the land and an action of ejectment is brought, and the trespasser comes rushing back to congress begging to have the act that made the patent good repealed, saying, "I have squatted on that land since that act was passed, and I think I ought to be allowed to remain, because the owner who paid for it at one time did not have a good title. Now, repeal that confirmatory act that made his patent good before I squatted on it, and I and others can rob him with impunity." Would not you look upon such a proposition as one of great impudence? What has he to do with it? By what right did he trespass on the land? He certainly never bought or paid for it; and if the government has confirmed a defective title to an honest owner, why should he complain? By what rule of equity, by what rule of justice, upon what ground under heavens, do they come here and say a word about it? They take a man's invention, take it years after his patent was granted, and after it was confirmed by act of congress, and then come here and assume the position of injured innocents, whose "vested rights" have been invaded. Is not that cool impudence?

And what are they doing with this invention? Why, they are getting a dollar a thousand feet for "sheering" logs out of the river into their receptacles. And they consider it a very hard case if they have to pay that inventor who enabled them to do that, some trifling sum out of the money which, but for him, they could never have earned at all.

*Mr. Cottrill.*—That amount is fixed at a less sum by an act of the legislature—seventy-five cents per thousand feet for twenty-six miles.

*Mr. Dickerson.*—Seventy-five cents per thousand feet; and Mr. Pond's boom enables you to get that seventy-five cents,



and then you think it very hard if you should have to pay him anything out of your profits for it. Congress ought to relieve such suffering as that!

Now, I will recur to petitioner's case. Here are the affidavits of Daniel Shaw and of Buffington, whose names I have read to you as having in the first place bought the patent, and then having certified that Mr. Pond was the inventor of it, and they make affidavits to show that Mr. Pond was not the inventor. Well, if he was not, his patent is not worth anything. All they have got to do is to prove that and there is an end of this matter. But Daniel Shaw says "that he resides at West Eau Claire, in said county; that he has been engaged for seventeen years past in lumbering and logging upon the Chippewa river and tributaries in said state; that he is a member of the Half-Moon lake company; that said company had a sheer boom, with rudders, which was constructed in 1859 or 1860, and used for turning logs from the main Chippewa river into Half-Moon lake, at West Eau Claire, for manufacture into lumber."

Who made that? He goes on:

"Levi W. Pond and James Allen constructed it."

Levi W. Pond and James Allen constructed it. Well, we have their contract with that company in 1859 to construct the *anchor boom*, and have the evidence of half a dozen people that that was done in 1860, and Pond's boom not until 1861. And after that does he say Adin Randall invented it? Not at all. He says: "Adin Randall is the first person whom I heard talk of this kind of boom." That is very probably true. But the inference attempted to be drawn is that Adin Randall invented the boom. That is the object of this affidavit; but Mr. Shaw did not dare to say that, because there was Mr. Shaw's certificate that Mr. Pond invented it. He was the partner of Adin Randall, and he knew all about it. It is probable that Adin Randall told him that Mr. Pond was building this boom. Mr. Pond did not communicate with him, probably. That is the statement of this man Daniel Shaw.

Then, to show your honors the contradictory statements which these petitioners have been compelled to resort to, they swear in another affidavit that this boom was built by Adin Randall, (page 14, Moses N. Davis.) Then comes this Mr. Buffington. Mr. Buffington is the man who signed that certificate that Mr. Pond

was the inventor of it. And Mr. Buffington says—

"That Adin Randall (since deceased) was a member of that company, and deponent and copartner Smith bought him out at that time. That he is acquainted with sheer booms upon the Chippewa river, and with the one in the Chippewa river at Half-Moon lake. That boom was in operation about the year 1860, and has continued in operation ever since, or at least that kind of boom has been maintained there, and it is the same kind of boom which Levi W. Pond and the Eau Claire lumber company claim to have a patent upon. That he knows of several other like booms having been in use on the Chippewa river, in the counties of Eau Claire and Chippewa, since, and one in particular at Wilkins' Island, which was placed there about the year 1866."

That Wilkins Island boom is one of the booms covered by the contract I have read you between these very people—the Half-Moon lake company and Mr. Pond. It is specified by name in that contract, and they paid two thousand dollars for license to use it with the other.

This Mr. Buffington, your honors will see, does not say that Adin Randall built or invented it. He does not say who built it. He says Adin Randall was a member of the company, and that it was in operation about 1860, and that it is the boom that Mr. Pond got a patent for. All that is true except the date of 1860. But what is the object of that kind of affidavits? Its object is to impress your minds with the belief that Mr. Randall was the inventor of it, although he does not say so. The men for whom it was built, and who know, do not say so, but insinuate it, and others swear to it. It is a fraud to offer such affidavits as these, because both of these men know the truth and neither of them swears that Adin Randall was the inventor, nor that any one but Pond was.

Then we come to their two neighbors, named respectively Porter and Chase, who swear the thing back to 1860. Well, gentlemen, I hold in my hand two letters. One is from Mr. Porter the other from Mr. Chase. In these letters they tell you that what they swear to is not true; that they have been misled in some way or other. Somebody can explain it, but I do not suppose anybody will. I will read these two letters, as follows:

EAU CLAIRE, WIS., April 10, 1874.  
 GEORGE Y. GILBERT, Esq.,

Dear Sir: Your note of yesterday, calling my attention to matters embraced in house bills Nos. 1390 and 1391, more particularly to my affidavit relative to the "Sheer Rudder Boom," is just received. It appears that I was mistaken as to the time the sheer boom, as now constructed, was first used by the Half Moon Lake Company. Upon inquiries of parties who ought to know, I am informed that its use, as at present constructed, does not date as far back as the year 1860, but one or two years later. It appears that I was mistaken as to the scope of "Pond's patent." By reference to the patent itself, I observe that its existence is predicated upon the mode of operating and adjusting the fins to the boom, and does not claim that Mr. Pond invented either boom or fins. Hence the expression in my affidavit with regard to sheer booms, to-wit: "as at present claimed by Pond," was, in a degree, incorrect, and conveyed a wrong impression, for the very reason, as before intimated, that I supposed he claimed to be the inventor of the boom and fins. I am very glad to make this correction, and am,

Truly yours,

G. E. PORTER.

EAU CLAIRE, April 10, 1874.

G. Y. GILBERT, Esq.,

Dear Sir:—Your note, calling my attention to my affidavit published in a certain 'Statement of Facts, &c.,' relative to House bills Nos. 1390 and 1391 is received; and after a careful consideration of my affidavit as there published, I am convinced I was in error in the certain statements therein contained, to-wit, 'that I had known of said booms being in use upon said river since the year 1859.' On consideration, I am convinced my first knowledge of said booms must have been in the year 1860 or 1861. Second, that in the year 1859 or 1860 the Half Moon Lake Company, at West Eau Claire, constructed one of these booms. I was at error here again, as this boom is the subject of my first correction. Third, I therein gave the date of the first construction of the Gravel Island boom as 1860 or 1861. It must have been one or two years later.

I was led into this error in dates by the idea that I left this place to attend college in the year 1861, which was my original

intention, but I was delayed until the year 1862.

You ask me if I know that these booms were 'identical' with the boom patented by Pond. On that point I can speak positively. This I do know: All the booms which I mentioned in my affidavit had 'wings' or 'rudders,' but how actuated, whether by ropes, rods, chains, or levers, I am unable to state.

I trust you will not think I intended any misstatement in my affidavit.

I believed I have stated all the correct that I can make to said affidavit.

Respectfully,

E. S. CHASE.

Nothing is more common than to find the human mind by means of a little conversation, impressed with the belief that what is then presented to it had been there for years; and that method has been practiced on these gentlemen. But the moment their attention was called to the mistakes they have made they corrected them at once.

These petitioners characterize this act as unprecedented. It is very far from that. As I have already shown you the principle of it is in the general patent act, and all inventors are protected by it for two years before they apply for a patent; and this act only enlarges the time for two or three years more under the circumstances of this case.

But there are private acts of the same character. Dr. Page was the inventor of the Rumkorf coil, and other improvements, which he invented more than thirty years ago, and they had been in common public use for a generation, when congress, by the act of March 19, 1868, authorized Dr. Page to take a patent for these inventions, "which patent shall be valid *Notwithstanding said Page's invention may have been described or in use prior to said application,*" &c.—(U. S. Stat. vol. 15. p. 356.) The language of that act is almost the same as of the act for the relief of Mr. Pond.

And the general patent act of 1870 enacted that any person who has ever made an application for a patent and withdrawn it might apply again within six months, irrespective of the lapse of time during which the invention might have been in public use, and have a good patent for his invention; and under this general act numerous patents were taken for inventions, which had been publicly

used for many years.—(Sec. 35, Act 1870)

So that instead of being infrequent, we find that it is very common, both in public and private acts, to authorize inventors to take good patents for inventions which have been for years in pub- use.

In this case congress has exercised its constitutional power to remedy a technical defect in title to a great invention. Upon the faith of that act contracts have been made and guarantees given, and large sums of money invested. To repeal it would be to destroy rights which have been founded upon it, and to do a great wrong to an inventor who has, by the showing of these petitioners, made an invention so important that it seriously affects the value of all the timber lands of the great rivers of the west, and without which great losses of timber must annually occur. And for whom is the repeal asked? For men who became infringers of the patent years after it was granted, and months after it was confirmed by the act which they seek to repeal. Those who were using it before the patent was applied for do not complain, but only these trespassers upon a title which was good when they assailed it. If there ever could be a case in which the government would be justified in violating the obligation of its contracts, which the constitution forbids a state to do, that case certainly will not be one like this, in which the disgrace is to be incurred in order to wrong a meritorious inventor, and benefit infringers who, with their eyes open, trespassed upon property in which they had no title, and the title to which had been doubly secured to its creator.

The counsel on the other side, who also represent these petitioners in the courts, from which they are attempting to escape by appealing to congress, say that while we admit here that this act of congress does not make the Pond patent valid if he was not the first inventor of the thing patented, yet that nothing done here will prevent us from claiming before the courts that this act is in reality what they say it is—a grant to Mr. Pond of another man's invention—and that they need the repeal of this act in order to present us from making such a claim. Well, your honors, I propose to remove that difficulty from the minds of the learned counsel, and to give them a stipulation to the cause, signed by the com-

plainants who are here present, that this patent is void if any one but Mr. Pond was the first inventor of the machine. It is a very useless thing to do, and gives them nothing they did not have before; but I trust it will silence the argument that this act was intended, and has the effect, to create a monopoly in what was not invented by the patentee. The courts will not probably consider the constitution any safer because we stipulate not to repeal it; but if the other side prize our submission to its provisions as any protection to their rights, we are happy to gratify them by giving it.

NOTE.—The following stipulation is offered to the petitioners, to be filed in the cause.

*In the Circuit Court of the United States,  
Western District of Wisconsin. In Equity.*

LEVI W. POND AND EAU CLAIRE LUMBER COMPANY

against

THE MISSISSIPPI RIVER LOGGING COMPANY.

It is hereby stipulated and agreed that if Levi W. Pond is not the first and original inventor of the "Improved device for Sheering Booms," patented to him August 4, 1868, then his said patent is void, notwithstanding the act of congress June 10, 1872, confirming said patent.

Dated April 20, 1874.

LEVI W. POND,

EAU CLAIRE LUMBER Co.

By GEORGE Y. GILBERT,

*Vice President.*

A Salamanca dispatch states that terrible fires have been raging for several days on the mountain sides near Jamestown, Carrolton, Orlean, Salamanca and other towns. The fires extend over a wide range of country, penetrating to the timber districts of Erie and Corry, Pa. Several cabins of the Allegany Indians, in the woods, near Salamanca, have been burned, and a large saw mill has also been burned. Animals are fleeing from the flames. On Sunday the citizens of Minitla, Erie county, Pa., turned out from church to keep the flames from burning the village. Unless a heavy rain occurs there will be a loss of hundreds of thousands of acres of timber.

## HARD WOOD MACHINERY.

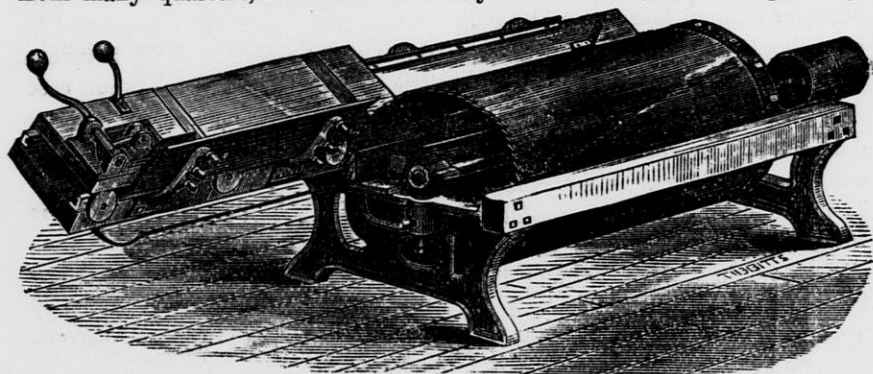
Something for the Benefit of the New Class of Manufactures that are Springing up in the Northwestern Pineries of Wisconsin, and on the Line of the Wisconsin Central R. R.—Illustrations of Various New Machines and the Latest Improvements Upon Old Ones.

Readers of THE WISCONSIN LUMBERMAN have been supplied in its preceding issues with practical descriptions of improved machinery for the working up of pine in its various forms. We have this month the privilege of presenting, in answer to inquiries from many quarters, illustrated des-

crease in the west of manufactures of hard woods:

## CHAMPION STAVE SAWING MACHINE.

The machine, which we here illustrate, was patented by Messrs. Peter Gerlach & Co., proprietors of the Cleveland Saw and Stave Machinery Works, of Cleveland, Ohio. This machine has been extensively used since its introduction, through all the western states. It has been pronounced by all using it the simplest, most durable, and fastest cutting stave machine in use. It will cut from 5,000 to 7,000 good staves per day of 10 hours, much depending



criptions of several valuable improvements in hard wood machinery. We are indebted to Mr. O. L. Packard of this city, the western agent for several leading manufacturers of this sort of machinery, for material assistance in the preparation of this article, and are authorized to say that he will cheerfully furnish, upon application, any further information on the subject that may be required. In this connection, we refer the reader to our article in another place upon the growing demand for hard wood machinery, and the in-

on power, timber used, and ability of the operator. Running motion, 14 inch pulley, 11 inch face, to run from 900 to 1,000 revolutions per minute. In running this speed the machines do the best work. Power required, 8 to 12 horse power. The machine is substantially built, the frame is very low. The bolt can be placed into the carriage and adjusted in less time than any other machine in use. The greatest advantage of this machine over all others is that the carriage bed and carriage are on an incline, so that when the bolt is.



placed into the carriage it slides down to the gauge or rest and is dogged. When the stave is cut it drops into the trough inside the saw, and is brought out by the hoe attached to the carriage. It will cut every stave of a uniform thickness and any width of bolt presented to it without extra splitting to make it fit the carriage. The carriage bed is lined with cast iron; the bolts which the rollers run on pass entirely through the bed, thus making it as strong as all iron. There has been added a new dog or clamp. With this any desired length of bolt can be cut at pleasure without loosing any time in changing or moving the dog.

#### STAVE CUTTING MACHINE.

The machine represented by this cut has all the latest improvements. The knife is 36 inches long and  $6\frac{1}{2}$  wide, with the face ground to a circle of 20 inches. The rib gauges are faced with steel, and one inch of the upper end of them are hardened to prevent wear, and also the discoloring of the staves. Brass or copper can be put on if preferred. The groove in the table is made deep to

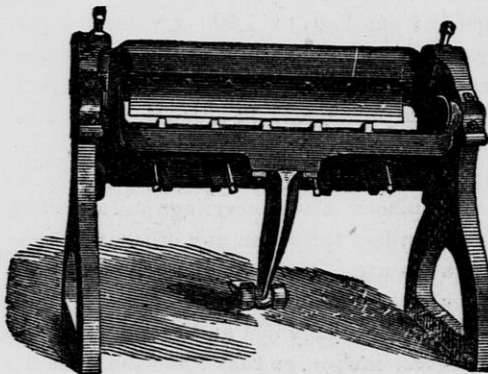
admit of long blocking being inserted, and which is set on its end to receive the edge of the knife as it cuts through the stave bolt. There is an iron bar under the blocking, and set screws under the bar, for the purpose of raising up the wood when it needs dressing off. One set of this blocking can be so treated several times. These machines are made with the legs as seen in the cut above, or with short solid ends for the purpose of setting them on timbers. The manufacturers also put a slotted arm and wrist pin on the tumbler instead of the connection seen in the engraving, when requested to do so at the time the order is given. The price is the same in either case for the same size machine.

Mr. O. L. Packard, of this city, is prepared to furnish promptly to order various kinds of these machines, from a nail keg stave cutter, with 24 inch knife, 15 inch circle, to a dry hog-head stave cutter, 48 inch knife, 30 inch circle.

#### FIVE FEET, SIX KNIFE WHEEL JOINTER.

(See Page 261)

Our cut shows an entirely new wheel. The knives are 21 inches long. They cut as much at the point as at the heel, wearing away all alike the whole length, and being the only wheel jointer yet made that has this advantage. The knives will run regularly one week on kiln dried hard wood with once grinding, and make good joints all the time. The wheel has a wrought iron band on it  $3\frac{1}{4} \times 3\frac{5}{8}$ , tight and loose pulleys 19 inch



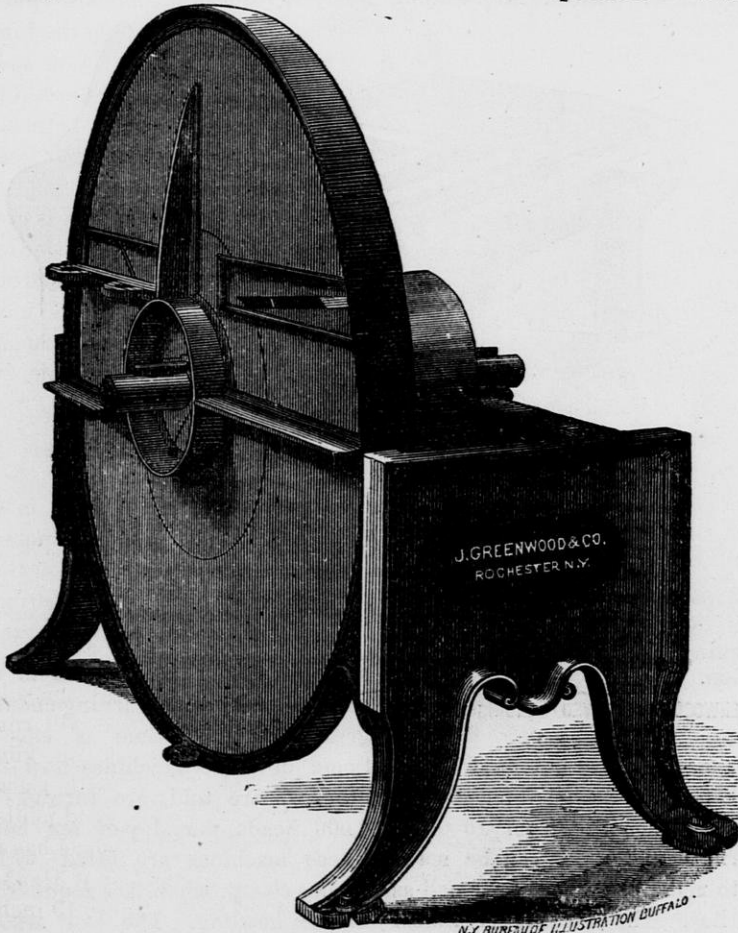
diameter, 5 inch face. The speed is 550 to 650, and the price \$200.

**EVARTS' PATENT ONE BLOCK HAND-FEED SHINGLE AND HEADING MACHINE.**

(See Page 262)

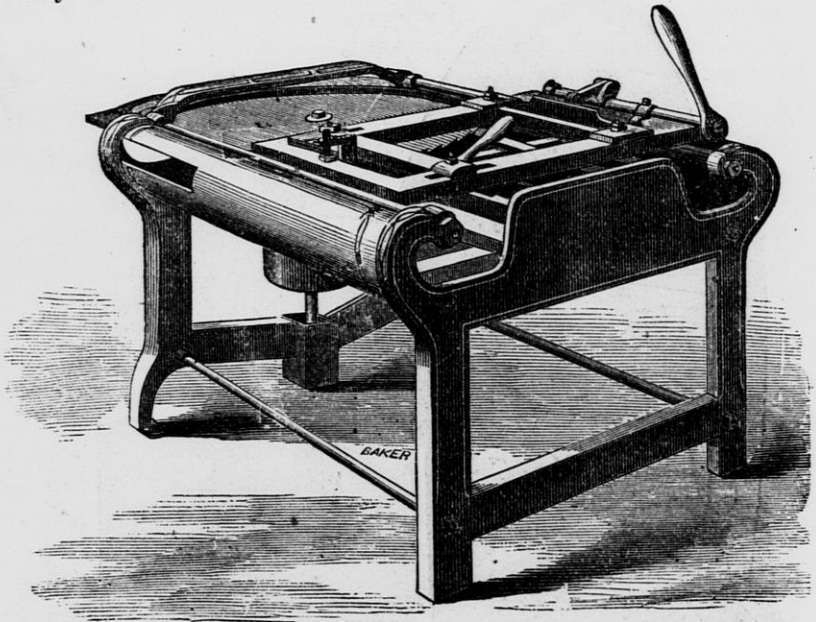
This machine is now made with all the latest improvements. Our cut represents the original Evarts' patent shingle machine with improved taper works. It has a self-tilting table, so the operator need not use his left hand, save to move the carriage. Any desired thickness of shingle can be made, both butt

and top, and the taper or thickness can be adjusted in one minute's time. The saw is adjusted by means of set screws at top and bottom boxes. It claims an advantage over other machines in its adaptation to the sawing of tight barrel heading, thick at the sap edge and thin at the heart. The working capacity of this machine is 30,000 to 40,000 shingles per day from green logs of white pine or Cypress, and in yellow pine 12,000 to 15,000 per day, depending on the skill of the operator. Variations



from these figures may occur from attendant circumstances, and not due to the machine, which has had the test of years. Three sizes of this machine are made. The 36 in. saw makes shingles from 16 in to 20 in. long; the 40 in. and 42 in. saws make shingles 16 in. to 24 in. long. Heading, box stuff, &c., are made with equal facility. The 42 in. saw machine is more properly a heading machine. Mr. O. L. Packard, Milwaukee, Wis., will furnish price lists and any other desired information

automatic in its operations. Aside from putting the heading in between the clamps, all the operator has to do is to tread on a foot lever; by this one lever the head is very firmly clamped, the clamps swung up to the saw, and the machine put in motion. When the head is finished, the machine throws itself out of gear, discharges the head, and is in position to receive another. The operator, having no need to touch the machine with his hands, can have a head ready to drop into the machine the



concerning this machine upon application.

#### J. GREENWOOD'S IMPROVED HEADING TURNER.

(See Page 263)

This machine was patented March 7th, 1865. It is designed for circling all kinds of heading, from 10 to 18 inches in diameter. It can be made so as to make keg heads as small as 5½ inches. The machine is almost

moment the finished one is discharged. By this arrangement a great saving of time is effected. Some of these machines now running, we are told, are turning out 4,000 heads per day of ten hours. These machines are fitted with a spring clamp, when it is required for uneven heading. The saw arbor is

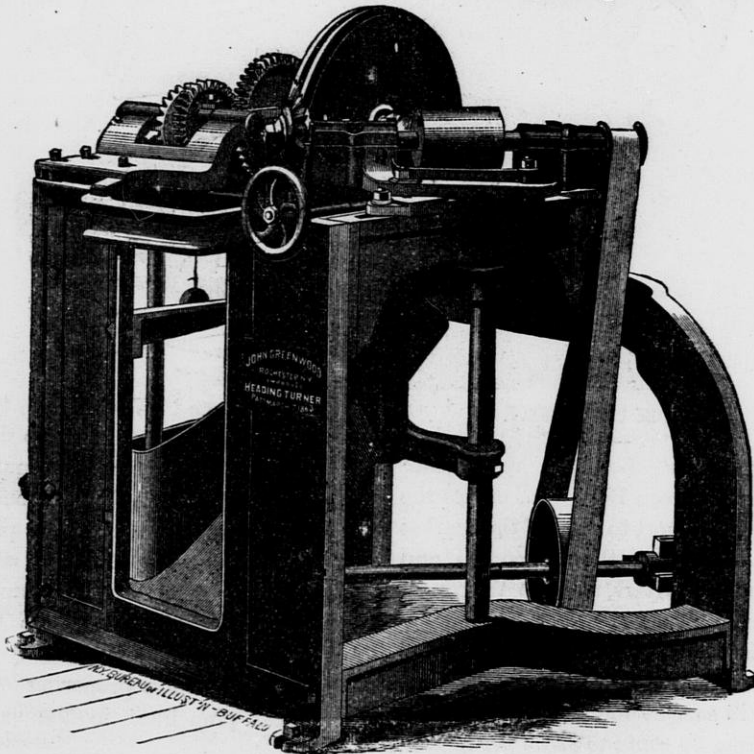
of cast steel, the pulley is placed between the journals, and the boxes are self-oiling. The boxes are connected together in one casting, and do not swing on a centre as in some heading turners, but are bolted firmly to the main frame of the machine. The pressure of clamping the head is resisted by cast steel steps and points hardened, having their points of bearing at the centre of the shafts, which reduces the friction caused by the pressure to the

There are over six hundred of these heading turners in operation in the United States, Canada, Cuba, Spain, Prussia and Australia.

**HEADING AND SURFACE PLANER.**

(See Page 264)

Our cut represents a 16 inch planer for heading. It has a tilting arrangement attached to the table, so as to be used for planing tight barrel heading sawed tapering, and for straight heading, and any kind of surface planing. The table is

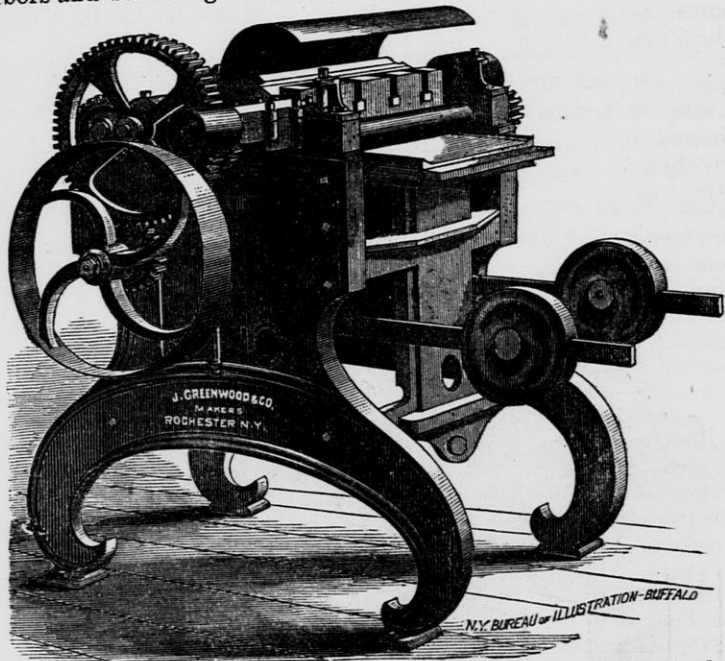


least possible amount. The machine is fed from the saw arbor above, so that in case anything happens to retard or stop the saw, the feed will be retarded or stopped also, and prevent the saw being broken or injured. raised and lowered by means of a hand wheel. No slackening or tightening of screws is required, and the table stays just where it is set. All machines have pulleys at each end of the cylinder. There are



three 4 inch feed rollers in the machine, and one pressure roller, which has rubber springs, but is geared like the others. These machines have steel arbors and self-oiling boxes of

the best construction, and have guide rollers at the edges of the table, to prevent the stuff from running against the side of the machine.



#### THE PINE LAND MARKET.

Mr. M. P. Lindsley, real estate broker of Green Bay, Wis., makes the following report to date of the market for stumpage on the Wisconsin and Menomonee rivers, and the Wisconsin Central railroad :

Wisconsin Central Railroad and Wisconsin River.—Pine lands here are still sought for, the prices ranging from 50 cents to \$2.50 per M feet, stumpage according to quality and location.

Menominee River.—There has been some call for pine land here, although the prices range somewhat higher than on the Wisconsin river. Messrs.

J. H. Potter and Wm. Cook, two practical pine men have gone up that way "to look." They took minutes of a 4000 acre tract on the Wisconsin side of the river, also minutes of pine and iron lands on the Michigan side. Should they not find a location to their mind, they will go up on the Central railroad or Wisconsin river. Other parties are now preparing for a three weeks pine hunt in the same region.

Examine the "Lumbermen's Register" at the end of this volume and report additions or corrections to the WISCONSIN LUMBERMAN PUBLISHING Co., 64 Oneida street, Milwaukee, Wis.

## TIMBER IN RUSSIA.

*From the London Practical Magazine.*

Russia is the best wooded country in Europe. According to Tengoborski, its forests cover an area of 180,000,000 desiatines (about 470,000,000 acres), being nearly 31 per cent. of the whole superficies of the country, and 71 per cent of the entire forest-land of Europe. Unfortunately, the waste and devastation to which these forests are subjected are on a corresponding scale. Nowhere is protective legislation less stringent; nowhere, except perhaps in America, are forests exposed to such tremendous conflagrations. At the same time, owing to the length and severity of the winter, the legitimate demand for fuel is greater than in other countries. Even the great iron-works are under every inducement to persevere with the use of charcoal as long as possible, owing to the superiority of the iron thus treated. From all these causes a decrease in the production of wood is already remarked, accompanied by an advance in prices, as yet principally local, but threatening to become general. In St. Petersburg during the summer of 1871, the price of wood rose from 50 to 75 per cent, an increase explained by the naturally large demand of a metropolis, and the distance of the principal localities of production. The introduction of railways, which ought to have mitigated the latter evil, has on the contrary contributed to the devastation of the forests from the general use of wood as fuel for locomotives. The forests in the immediate vicinity of the railroads are consequently the greatest sufferers; the proprietors have taken no adequate measures to repair the waste by new plantations, nor has the law as yet interposed to compel them. From all these considerations Matthai takes a discouraging view of the prospects of wood-culture in Russia, and of those of her manufactures, in so far as they depend upon it. The

administrations of the crown forests, he states, presents an exception to that of the rest, being careful and conducted on scientific principles. Notwithstanding, although these forests occupy an area of 107,000 desiatines, the net profit as estimated in the State Budget for 1871 was only about 5,000,000 roubles, about fivepence per desiatine. The administration of the Prussian forests, on the other hand, yields for a corresponding area a net annual profit of about six shillings and fivepence.

**ANNUAL VALUE OF PRODUCTION.**—This is estimated at about 150,000,000 roubles (about £8,000,000). One third of this amount is supposed to find its way into commerce, and the remainder being the value of the fuel consumed at or near the place of production. One half the timber employed commercially is stated to be used in ship and boat building in the country itself—a supposition only to be explained by the prodigious number of boats annually constructed for internal navigation, and broken up and sold for fuel after the first trip. The governments bordering on the Volga alone are supposed to use up 9,000 boats yearly in this wasteful manner.

**EXPORTATIONS.**—The value of timber exported from Russia had risen from 5,000,000 roubles in 1860 to 13,132,403 (about £2,150,000) in 1870. The increase would seem to be continuing, as we find from recent returns that the value of timber imported from Russia into the United Kingdom alone for the first eleven months of 1872 was—

Hewn timber . . . . . £519,101

Sawn, planed, &c. . . . . 1,433,155

being an increase of nearly 30 per cent upon the value of importation for the whole of the preceding year.

**SHIPBUILDING.**—This branch of industry is but little pursued in Russia, although no European country is so amply supplied with the raw material of manufacture. The greater part of her annual produce available

for the purpose is comprehended under the head of exportation already given. One of the most interesting departments of the Moscow Exhibition was a magnificent display of woods adapted for shipbuilding, principally oak and pine, by Dr. A. Kaufmann, of the Ministry of Marine. Dr. Kaufmann has also invented a process for the conservation of timber, which appears to be perfectly successful.

**SAW-MILLS.**—In 1866 the number of wood-sawing establishments in the whole of Russia was returned by the ministry of finance at 179, and the annual value of their produce at 1,886,000 roubles (about £600,000). This estimate is immensely below the truth. We have seen that the importation of sawn and dressed timber from Russia into the United Kingdom alone was during the first eleven months of the past year no less than £1,433,135; the exportation to France and Germany is also very considerable, to say nothing of the quantity required for domestic purposes. One of the most extensive firms in the trade, Messrs. Worhmann & Son of Riga, alone produces to the annual value of 700,000 roubles, or more than a sixth of the entire amount stated in the official returns.

**PATENT IN WATER WHEELS.**—John W. Smith and Calvin J. Weld, Brattleboro. The rotating portion of this wheel consists of a horizontal plate, to the centre of which the vertical shaft is fixed an angular curb and a top flange or cover for the buckets. There are two kinds of buckets in this wheel, and they alternate with each other. One set radiates from the axis of the wheel shaft, and are flat, extending from the flange or cover, down as far as the circumference of the plate. The other buckets consist of upper vertical portions corresponding to the buckets, which portions terminate below the plate in curved tangential arranged portions.

#### PATENTS AND IMPROVEMENTS IN THE LUMBER TRADE.

For the week ending April 21st:

For clapboard machine, to Edwin A. Johnson and Henry Ansell, Sherbrooke, Quebec, Canada; said Ansell assignor to said Johnson. The feed is adjusted by a system of slotted levers with moveable fulcrum-pins.

For water wheel, to Nelson Conner, Jalapa, Ind. This invention consists of a double wheel comprising a horizontal wheel receiving the water at the periphery and discharging it at the center for the upper portion, and another wheel below it receiving the water at the center from the upper wheel and discharging it at the periphery. The wheels are embraced between top and bottom horizontal disks, and separated the one from the other by a flat annular rim.

For circular saw, to Israel Holland, Indianapolis, Ind. The saw is furnished with two sets of teeth, which enable it to cut tapering slits in the material to which it may be applied.

**CANADA'S DUTY ON TIMBER.**—The special committee of the dominion parliament charged with inquiring into the working of the export duty upon logs, shingle bolts and stave bolts, has reported through the chairman, John Charlton, that although the saw mill interest has been slightly benefitted by the duty, it has been at the expense of settlers and owners of timber, and instead of fostering the manufacture of lumber, has, in many localities, especially at the Lake Erie ports, reduced the manufacture. It is claimed that the duty has afforded protection to Michigan timber and driven a large amount of capital from Canada to the pineries of Michigan and Wisconsin. The committee recommend that the law be so modified that the burdens imposed be more equally distributed, and a bill will be introduced to that end.

## MINNESOTA LOGS AND LUMBER.

The *Stillwater* (Minn.) *Gazette* says:

The log and lumber trade for the season of 1874 may now be considered as having fairly opened. Our St. Croix log men had some 16 log rafts tied up at various points on the Mississippi during the past winter, comprising in quantity some eight millions of feet. These have all been sold at fair figures.

Sales range from \$10 to \$12 per thousand feet for heavy white pine.

\$10 to \$11.50 for best grades of short white pine.

\$10 to \$11 for best long Norways.

\$8.50 to \$9.50 for common short logs.

Inferior long white pine and Norway range in price from \$7.50 to \$9 per thousand feet, rafted.

Reports from down the river are discouraging to saw men. Sales of common boards have been reported at \$10 at Dubuque, while fair Chipewa lumber has been contracted at \$12, held at Keokuk.

At Black river there is fully one hundred million feet of logs in the limits of the main boom. The new logs will not get in without another rise.

The Beef Slough boom has in sight say forty million feet of old logs, with a fair prospect of driving in many of the new ones.

Though there is a fair driving stage on most of the tributaries of the St. Croix, it will be impossible to get in the logs cut on the upper streams unless we have heavy rains. Nearly all of our principal log-producing streams pass through large lakes. These are now frozen over and will not be free from ice for some days yet. This must necessarily retard the progress of the drives, and may hold back large quantities of logs until another season.

There are now below the main St. Croix boom between twelve and fifteen million feet of logs. It is esti-

mated that there is now in the boom nearly or quite the same amount.

The boom began operations on the 27th of April, and was fairly at work by the 4th of May. The logs now passing through the boom are all of last season's cutting, comprising all grades and lengths.

Water in the St. Croix river and lake is at a fair stage, and rising slowly.

## KILN DRYING LUMBER.

In answer to the question how to increase the rapidity of drying in a lumber kiln, an English paper gives the following suggestions:

"No new air at all is needed and there may probably be too much in the kiln already. Air is good for respiration, but was not made for a drying agent, although it is well adapted to prevent too rapid desiccation. And air-dried lumber has a crust of dried wood on the outside, which retards the internal drying and prevents the thorough shrinking of the wood, leaving it liable to swell or shrink with every change of the weather. Again, air cannot season lumber, which operation is a chemical change of its albumen, preventing its future shrinkage, swelling and decay. Even eggs can be so coagulated as to keep for ten years, and I have some thus prepared which are that old, as perfect as ever they were as far as decay is concerned. It was (and still is) thought that the best way of preserving lumber was to extract the albumen, by soaking the lumber in water for six or twelve months, or by boiling or steaming. These processes kill the lumber for good work and good finish. The albumen should be coagulated and retained in the pores of the wood, and it will keep out water or damp air as well as if the pores were filled with shellac or other gum, evidently fitting the wood for a very superior finish. This operation is readily accomplished by the well



known means of dry steam, requiring fewer days for its completion than the soaking and subsequent drying does months. In fact, it pays well to subject all lumber, no matter by what process it has been seasoned, to dry steam, by the use of which a black walnut tree may be cut in the forest on Monday morning, and worked into furniture by Saturday night, and be better fortified against any tendency to shrink, swell, warp or decay, and it will show a better finish.

**THE MILL INTERESTS OF BAY CITY, WENONA, SALZBURG AND BANKS.**—The extensive lumber and salt interests of the Saginaw Valley have made it famous the world over. Its manufacturing factories are large, numerous and first class in every respect, and are a source of pride to every inhabitant of the state. Bay City and the surrounding villages of Banks, Wenona and Salzburg must claim pre-eminence in this line, however, over the entire remaining portion of the valley. Two of the largest and finest mills in the world are located here—one in Bay City and the other in Wenona. That of John McGraw & Co., in this city, has a cutting capacity of fifty million feet per season, and employs three hundred and fifty men. Both of these mills combined cut annually as much lumber as any other five mills on the river. There are thirty-seven mills in the territory named, having a cutting capacity of over four hundred million feet per season, an invested capital of over two millions of dollars, and giving employment to more than two thousand men. Twenty-eight of these mills are located in Bay City, three in Banks, two in Wenona and four in Salzburg. The capacity of the Bay City mills is over three million feet per season; over fifteen hundred men are employed in them, and the capital invested is something over one million six hundred thousand dollars. The remaining nine mills

in Banks, Wenona, and Salzburg have an invested capital of seven hundred and fifty-five thousand dollars, a cutting capacity of over one hundred and twenty million feet, and employ five hundred men.—*Tribune.*

**BRANDY FROM SAWDUST.**—A certain German chemist, reduced to his wits, we might infer, to procure the material for "brandy-straight," has been successful in distilling the inebriating fluid from no less barren a material than sawdust. From 900 pounds of sawdust he extracted 61 quarts of brandy of 50 per cent., at 59 deg. perfectly free from odor or taste of turpentine, and of very agreeable flavor. From the allusion to turpentine, it is probable that the sawdust used was made from some species of pine, although information upon this point is not given. The author of the experiment deems it likely that the process might be made successful conducted on a large scale. By conversion of cellulose into sugar, each hundred weight of air-dried sawdust would yield at least 27.4 quarts of 50 per cent. brandy.

The *Grand Rapids Tribune* says that Ex-Governor C. C. Washburn of Wisconsin has brought suit against George Hiles, D. M. Kelley, Henry Ketchum, and the Scranton Boom and Manufacturing company, for damages in the sum of \$35,000 by reason of damming the east fork of Black river as Scranton, in that county, and to compel the removal of such obstructions. The cause involves many questions never yet decided, including the right to dam a stream not "meandered," and will undoubtedly reach the court of final resort. Both parties are heavy capitalists, each have large amounts invested there, and all are "plucky." There is next to no show for settlement. The result of the suit will be looked forward to with great interest by all lumbermen.

## ALL ABOUT BOILER EXPLOSIONS.

acts Which Every Mill Man Ought to Know  
—The Literature and the Science of the  
Subject.

Mr. J. R. Robinson, "consulting steam engineer," at the request of the *Boston Journal of Commerce*, has prepared the following contribution, taking a bill now pending before the Massachusetts legislature relating to the inspection of boilers for a text. The article merits the careful study of all mill men who employ steam :

It is obvious that the only possible reason for passing a law for the compulsory inspection of boilers, is the attainment of greater security. There are many things in relation to the causes of explosion of which we are ignorant, and there is very great need of greater security from danger in the use of boilers, of a more systematic study of the subject, and of experiments, such as have never been made, in order that this security may be attained ; but enough is now known to make it sure that the passage of this bill and the enforcement of its provisions would not tend to greater security, but the reverse. Its passage would be rather of the nature of an attempt to legalize ignorance, and to repeal or suspend the operation of physical laws.

All the valuable information in relation to the causes of explosions, obtained by Oliver Evans and by Jacob Perkins, by Leidenfrost, Klaproth, Poggendorff and by Boutigny ; by Magnus, Donny, Dufour, Faraday, Radley and Tyndall, is ignored by the bill. As are also the rules for strength, for testing, and for the safe management of boilers, by the committee of the Franklin Institute, Fairbairn, Rankine, Ortolon, Deschanel, and all the highest authorities.

A boiler constructed in accordance with the provisions of this bill, for boilers "set up or manufactured for

use in the Commonwealth after the first day of October next,"—section 1 and section 3,—might have a strength less than half that required by the committee of the Franklin Institute, or by the British Board of Trade, and be unsafe to run at any pressure whatever. The hydrostatic test required—section 3—is not accompanied by any adequate provision to guard against injuring the boiler tested. And a boiler tested in accordance with its terms might be so injured by the test as to be very much more unsafe after, than before, being tested. The standard of strength assumed for boilers now in use—section 3—is defective for the best iron, and the best construction of such boilers, and that have not been in use over one year, and is no guide whatever for the boilers of the many lower grades of iron, faulty construction, and longer terms of service.

The provision for additional pressure—section 3—for steel boilers is also objectionable. There have been many cases of the failure of steel boilers, where boilers of good iron would undoubtedly have stood.

The bill is evidently drawn upon the hypothesis that there are no causes of explosion other than gradually accumulating pressure, or gradual reduction of strength, and does not make the provision for strength prudent engineering would demand, even if the truth of this hypothesis had been established.

The committee of the Franklin Institute, after altogether the most extended and thorough experiments in relation to the causes of explosion ever made, advised a strength that would admit of a safe test to "three times the working pressure." Prof. Rankine advises a strength that will admit of a safe test to "two and a half to three times the working pressure." Mr. Fairbairn laid it down as a rule that a boiler should have a strength of "eight times the working

pressure," and this rule was adopted, and is now the standard of strength of the British Board of Trade. In France the standard of strength has been very high. When we in the country were using 5-16 inch plates in the waists of 48-inch locomotive boilers, the French were using plate "15 millimetres, or 6-10 inch thick," in boilers of the same diameter. The French have for many years acknowledged and provided—in other ways as well as by strength—for the forces brought to light by the experiments of Leidenfrost, Donny and the others above mentioned, and the result has been that explosions in France are very rare.

The passage of this bill and the enforcement of its provisions would not prevent such explosions as those at Gleason's manufactory in Dorchester, Allen's mill, Lowell, or at the Curtiss hat factory in Newburyport. Each of these boilers had a strength greater for the working pressure than is required by the bill, for boilers now in use, and their defects and the causes for their explosion are not provided for or recognized by the bill.

The truth of the hypothesis upon which the bill is drawn is not established, but on the contrary, engineers and scientists of the largest experience have been and are now of the opinion that many explosions are caused by an explosive vaporization of water.

Jacob Perkins says that "Oliver Evans had a record of more than six hundred burstings before he had one explosion. Although the pressure was greater when the bursting took place than when the explosion happened, I have myself witnessed enough to be perfectly satisfied that there is as much difference between a bursting and an explosion of a steam boiler as there is between the bursting of a cannon by hydraulic pressure or by gunpowder."

In relation to the power of a heated

metallic surface to repel water, so as to lead to the over-heating of the boiler below the water level, as suggested by the experiments of Leidenfrost and Klaproth, the committee of the Franklin Institute, in their report, say: "After much reflection and examination the committee are of the opinion that such cases *may* occur; they believe that such cases have occurred." They then go on to advise that this operation be recognized in order to "prevent accident by watchfulness in new forms of boiler or application of the fire."

M. Donny attributes one class of boiler explosions to overheating of the water, and says: "It is well known that cases have occurred in which an open pan of boiling water has exploded with fatal results, and such explosions cannot be explained on the usual hypothesis."

Prof. Rankine says, in relation to explosions caused by repulsion of the water: "There is much difference of opinion as to some points of detail in the manner in which this phenomenon is produced; but there can be no doubt that its primary causes are, first, the overheating of a portion of the plates of the boiler (being in most cases that portion which is directly over the fire), so that a store of heat is accumulated; and, secondly, the sudden contact of such over-heated plates with water, so that the heat stored up is suddenly expended in the production of a large quantity of steam at a high pressure."

Deschanel, speaking of the causes of explosions of boilers, and in relation to a form of boiler much used in France at that time, says: "We may also notice undue smallness of the vertical tubes. When this fault exists, the steam which is generated is not immediately replaced by water, and overheating is liable to occur." In relation to over-heating of the water, Deschanel says: "Another cause of explosions is probably to be found in a property of water which

has only recently been recognized." This was written soon after the experiments of Magnus and Donny. "It has been shown that, when water is deprived of air, it does not begin boiling till it has acquired an abnormally high temperature, and then bursts into steam with explosive violence."

M. Ortolon, then chief engineer of the French Imperial Marine, in a paper promulgated upon premonitory indications of explosions, says: "A fulminant explosion is rarely preceded by any characteristic signs; nevertheless, the following phenomena are sometimes the precursors of the catastrophe: Although the fire may be strong, the pressure falls on the pressure gauge; \* \* \* the level of the water in the glass gauge remains completely immovable, whilst the pressure falls sensibly without apparent cause." In relation to guarding against overheating of the water, Ortolon says: "Renew the water in part at each new lighting of the fire; \* \* \* this is in order not to leave for the production of steam a liquid from which the air has been completely expelled." Again: "When the engine has been stopped, do not allow the water and steam to remain a long time in the boiler in complete repose."

Prof. Tyndall, in speaking of overheating of the water, says: "It is very remarkable that a great number of locomotives have exploded on quitting the shed where they had remained for a time quiescent \* \* \* Now, if a locomotive has been boiling sufficiently long to expel the air contained in its water, that liquid will possess, in a greater or less degree, the high cohesive quality to which I have drawn your attention. It is at least conceivable, that while resting, previous to starting, an excess of heat might be thus stored up in the boiler, and, if stored up, the certain result would be, that the mechanical act of turning on the steam would produce the rupture of the cohesion, and steam

of explosive force would instantly be generated. I do not say that this is the case; but who can say it is *not* the case? We have been dealing throughout with a real agency, which is certainly competent, if its power be invoked, to produce the effects which have been ascribed to it." And in speaking of the power of heated metallic surfaces to repel water—of which Prof. Tyndall speaks as "a liquid supported by its own vapor—that is to say, it is sustained by the recoil of the molecular projectiles discharged from its under surface," says: "Boiler explosions have also been ascribed to the water in the boiler assuming the spheroidal state; the sudden development of steam, by subsequent contact with the heated metal, causing the explosion. We are more ignorant of these things than we ought to be. Experimental science has brought a series of true causes to light, which may produce these terrible catastrophes, but practical science has not yet determined the extent to which they actually come into operation."

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#### PINE RIVER DRIVE.

We learn from the *St. Louis Herald* (Mich.) that the rear of the last drive of logs on the Pine passed the dam in that village on Tuesday about noon. The entire drive consists of about 7,000,000 feet of logs and is run by Messrs. Rust, Blanchard & Chandler. Their crew were fifty-three days driving to this point, from the tributaries of the Pine and the main stream. Their men were orderly, quiet, and entitled to credit for their general good demeanor on the entire drive. The force numbers about seventy men. Messrs. John McTavish and J. C. Bailey, foremen, are entitled to much credit for the manner in which the work has been performed, and the good behavior of the men. This drive, we believe, "cleans up" the Pine and its tributaries for the season.





## NEW STEAM SAW MILL AT ALMA, WIS.

*From the Alma Express.*

Last Monday we took a look through the new steam saw mill of Williams & Waelty at this place. The mill is considerably enlarged from what it was last year, and now is probably the best mill of its size on the Mississippi river, or the Chipewa either. Its vast machinery is driven by a 55 horse power engine, which is supplied with two large boilers.

The company now employ about thirty men, and are cutting on an average, 35,000 feet of lumber per day, besides the lath, shingles, pickets, &c.

The mill is supplied with one of Noah Shaw's patent carriages and head blocks, which has lately been patented, and is acknowledged by those who know, to be the very best thing yet out on mill machinery. The blocks are so arranged with large rubber springs and levers that as soon as the log is off the carriage, all the setter has to do is to throw up the checks, and the head blocks move quickly back to place without any assistance from the setter. It is spoken of by all who have used it to be a fine thing and there are thousands of mill men who will yet bless Mr. Shaw for this valuable patent.

Mr. Fred Fisher, late with Mr. Lane, an experienced mill man has been engaged by the firm to superintend the business about the mill and yard. Mr. D. Loveridge another mill man of known ability is the financier and business manager of the firm. Pussy's majestic form can often be seen in the mill looking her over and attending to whatever is needed. Mr. Waelty makes himself generally useful. The firm have in the person of A. J. White, a good engineer, and in the person of Mr. Foss, a good sawyer, so there is no reason why this mill cannot be made to cut 40,000 feet per day. The firm have already one raft nearly complet-

ed, besides what they have in the yard.

The acquisition of this mill to our place is of great benefit to our town, and also to the whole country, it not only furnishes to a great number of men, employment, but enhances the value of property and gives our town a more go-a-headativeness.

## MUSKEGON LUMBERING.

The drive is near Newage, and there is more water in the Muskegon river to-day than has ever been known to the oldest loggers on the stream. The recent rains have proved the most welcome freshet that log-owners could have possibly wished for. The tributaries are swollen sufficiently to allow all the logs that had been given up for the season to float out into the main river, with the exception of perhaps about 17,000,000 feet in Little river and 3,000,000 in Grind Stone Creek. With the exception of this 20,000,000, the log crop on the Muskegon and its tributaries for 1874 [including those hung up in 1873,] will be got to the mill booms months almost, before the close of navigation. Unless the price of lumber advances, however, we hope and expect our manufacturers will not pursue the usual suicidal policy of throwing millions upon the market and taking what they can get for it from the Chicago sharpers, middlemen and D. B's.

The total log crop for this season will be about 275,000,000 feet for Muskegon river, and about 80,000,000 for White river—making a total for Muskegon county of 350,000,000 feet of logs—nearly one-third of which are already cut and shipped.

Pierson's drive on Green Creek, which empties into the Muskegon river in the township of Summerfield, will be out the last of the week. The amount of logs is 2,000,000 feet.—*News and Reporter.*

### SORTING OF LUMBER.

#### The Growing Necessity for Sorting Lumber —A Few Hints Upon the Subject.

Our attention has been called of late to a daily growing necessity for more labor being expended in the work of sorting lumber at our several mills along the river. Since the extension of the several roads into the pine country, mills have sprung up where the lumber is sold and shipped by rail direct to its destination. This trade is rapidly growing in importance, and calls for immediate attention. The first feature of it is that it is rapidly doing away with what may be termed lumber brokers, who formerly transacted the business between the lumber consumers or buyers, and the mill men. When a small buyer east wants a couple of car loads of bill stuff, he goes out to one of the small mills and has his lumber sorted out and shipped by rail directly to him, going past our river mill men. In conversation yesterday with a leading lumber official in this city, our reporter learned that not less than one million feet per day is shipped by rail on the several roads direct to consumers and bought largely from mills outside these cities. The bulk of this lumber is what is termed "bill stuff," and the claim is that small shipments of this, amounting to 25 or 30 M, can be procured at these outside mills and shipped direct to the consumer easier than can be done at our larger mills. This we do not know, but do know that a large amount of what is termed small trade in lumber, is diverging in this direction. A necessity exists with our city mill men to cultivate this class of buyers more thoroughly, first, by sorting their lumber so as to offer a choice of every description of lumber needed by the consumer, with the same ease that is found in any city lumber yard; second, to ship more by rail than is done, leaving the middle men out of the question entirely. Just so soon

as the consumer and producer can be brought into immediate contact in the fact of buying and selling, trade in this particular will receive a fresh impulse.—*Saginaw Enterprise*.

### HOW TO REGULATE THE SPEED OF AN ENGINE.

A neat little pamphlet from the J. C. Hoadley Company of Lawrence, Mass., gives the results of experiments in regulating the speed of an engine, first by means of a variable cut-off, second, by throttling the steam, controlling mechanism being actuated in each case by the governor. It is scarcely necessary to say that the results are largely in favor of the variable cut-off. It is easy to understand why this should be so.

When a cut-off is employed, steam of nearly the boiler the boiler pressure is admitted to the cylinder; and the admission valve being closed before the piston has completed its stroke, only a portion of a cylinder full of steam is used. On the other hand, when the steam is throttled, its pressure is reduced before admission, and a cylinder full of steam is required. In the pamphlet referred to, quite a number of comparisons are given, and statements are made in regard to the amount coal and water required for horse power per hour in each case. There is no account of the manner in which the experiments were conducted, nor is it stated whether they were made by members of the company or by disinterested experts, both of which facts will tend to lessen their value, in the opinion of many. There is little doubt, however, of the truth of the principle statement, that under ordinary circumstances an engine with a variable cut-off will be more economical than one in which the valve is arranged to cut off at a fixed point, all regulation being effected by throttling the steam.

The total of logs tied out of the Tittabawassee boom for the five days ending on Friday the 15th, is 59,000. The total to date rafted out of the Cass river is 161,574, scaling 33, 827,930 feet, an average of 209 feet to the log. The total of logs put in on the Cass and tributaries will not exceed 30,000,000 feet.

THE PROPOSED INTERNATIONAL CONVENTION.

What Eastern and Southern Manufacturers think of it—Their Responses to the Call of the Boston Lumber Trade.

We reproduce from a recent number of the "Boston Lumber Trade" several responses of eminent eastern and southern manufacturers to the suggestion of the editor of that publication that there should be a general convocation of manufacturers at some such point as Williamsport, Pa.

We present also in this issue a circular from the "West Branch Lumberman's Exchange," inviting the manufacturers and dealers of the country to convene at Williamsport.

We also invite the attention of readers to the remarks of a Chicago contributor to the WISCONSIN LUMBERMAN, which seems to represent a very strong sentiment of hostility in that place to the proposed convention:

*From the Boston Lumber Trade.*

RAVENNA, O., May 6, 1874.

J. HENRY SYMONDS, Esq.

Dear Sir,—Your circular calling a meeting of lumbermen to form an association meets our approval. There are three of us in partnership selling lumber in Youngstown, Chardon and Ravenna, Ohio; one of us, if possible, will meet you at the time and place named in your circular.

We had on hand Jan. 1 st, two million feet of lumber.

All of the topics suggested in your paper are of interest to us and to the trade at large. Business in the lumber trade in this part of our state is not as yet quite as brisk as last year owing to the financial trouble.

Respectfully yours,

C. SUTHERLAND & Co.

BANGOR, ME., May 12, 1874.

J. HENRY SYMONDS, Esq., Boston.

Your circular received. Would

like to be present at the meeting therein called, if consistent, as we have felt that there should be more "union" in conducting the lumber trade. There are three separate interests engaged in this business. The operator, manufacturer and dealer. Do you call the three, or which class?

Yours Truly,

THURSTON & Co.

We anticipate and hope for a very full attendance of representatives of the whole lumber trade embracing these "separate interests," as from such a gathering only, can we expect a full and impartial expression of the requirements of the trade at large.

BUFFALO, N. Y., May 12th, 1874.

J. HENRY SYMONDS, Esq.

Dear Sir,— \* \* \* \*

I have read your circular and will attend the meeting June 23d.

\* \* \* \* \*

Yours Truly, ANDREW BROWN  
Manager New York Timber Company.

OSWEGO N. Y. May 12th, 1874.

J. HENRY SYMONDS, Esq. Boston, Mass.

Dear Sir,—Your circular or notice of a call for a national association of lumbermen is at hand. If interest, sufficient to get them to attend, can be awakened among the lumber dealers of the country. no doubt such a meeting would result in great good; but it is a question in our minds. We are in favor of the convention if it can be made a fully represented one, but, if only a few attend, no good will grow out of it. Something should be done to bring a about a uniformity, among the different sections, as to time to be given the purchasers of lumber, and also as to the inspection, &c. It is fully settled in our minds that 30 days should be the utmost limit of credit, and it would be very much more just to the manufacturer to make all transactions cash. He has to pay cash for everything and lay out of the use of his money a full year before it comes



back to him in sales of lumber. Then to give 60 to 120 days is simply folly.

There are many things that could be brought before a convention of this character of vital interest to the lumbermen, and if reforms can be passed, and, after being passed, honorably lived up to, every delegate would ever be glad to have attended and aided in carrying them into effect.

It is one thing, though, to pass resolutions and quite another to live up to them.

However, if we can be satisfied that thir projected convention is to be largely attended, one of our firm will be in attendance. Inclosed we send you a list of our lumber dealers in this city and a report of the lumber market for the past two weeks.

Yours respectfully,

O. M. BOND & Co.

The attendance and personal interest of just such gentlemen as our Oswego correspondent is precisely what is needed to make the convention a grand success both in number and character of those who shall attend, and in its influence as to numerous matters of prime importance to all who are, in any way, connected with the lumber trade. We are happy, also, to be able to say that the assurance which comes to us, both in the columns of numerous jouruals, wholly or in part, devoted to the lumber interest, and in the letters, which we are daily receiving from individuals in every part of the country, is a pledge of the coming together at Williamsport of so many representative men, and the organization of such a permanent association as shall precisely meet the demands and real necessities of the trade, which have been felt every where and increasingly with the wonderful development of this line of business, while the method of meeting those demands has been, in the mind of every one, a problem, extremely difficult of solution.

BANGOR, ME., May 14, 1874.

J. HENRY SYMONDS, ESQ.

Dear Sir,—Will you please change the address of the *Lumber Trade* to H. M. Prentiss, Bangor, Me. Please continue to send it indefinitely, sending your bill each year.

One great advantage in a National Association of Lumbermen will, be in, the facility of watching legislation. The lumber trade has always been strongly opposed to a renewal of the reciprocity treaty, and would be much interested in any change of the tariff on lumber, and the National Exchange could appoint delegates to go to Washington and look after our interests, and could pay them, or pay their expenses if necessary. Heretofore there has been no means of getting men to Washington and those matters have been left to private effort. When the last change in the tariff was made, the duties on lumber would have been reduced to almost nothing if it had not been for the efforts of some half dozen men.

I fear the present attempt at a reciprocity treaty. You will see the whole plan in the *N. Y. Herald* of 13th. There is great danger that they will take off all the duties on lumber if this scheme succeeds, and I hope at this Williamsport meeting that a committee will be appointed of our strongest men, to watch it, and to press our claims, and insist that our interests shall not be sacrificed.

Your plan of getting statistics of the whole lumber manufactured in the United States is very important. By comparing the whole product of the United States with the whole amount we import, we can get some idea of how much a reduction of the duties would affect the price of lumber in this country.

Very Truly Yours,

HENRY M. PRENTISS.

BARNUMVILLE, VT., May 14, 1874.

J. HENRY SYMONDS, ESQ.

Dear Sir:—Your circular in reference to a National Lumber Associa-

tion is at hand. I am glad to learn that a move is making in that direction, and shall esteem it a privilege to contribute every possible aid in the way of statistics and, if possible, shall be present at the meeting in Williamsport, Pa., June 23d. However, any information that I can give from personal knowledge will be limited to a section of the Green Mountain Range, extending fifty miles north and south and averaging about twenty miles in width. For several years the rapidly increasing demand for lumber has incited corresponding efforts to supply, while the sources of supply have been blindly overlooked or disregarded, and a careless, criminal waste has been allowed to increase faster even than the trade. An attempt was made last year to form a local lumber association, and a meeting of the lumber producers along the line of the Harlan Extension railroad was called by Mr. Wm. Walker of Bennington. The meeting was held at Factory Point, and producers representing the manufacture of over thirteen million feet of lumber annually, were present, and I was surprised at the apathy which seemed to prevail upon a subject so important. The meeting adjourned, subject to a future call, and has not been called and I am satisfied that local organizations of lumber producers, composed as they must necessarily be, of rivals in trade will accomplish very little for the permanent benefit of the lumber trade. Therefore, give us a national organization and send special intelligent agents to important localities and let us get at facts. I don't wish to be an alarmist, but I believe that the present consumption and waste of lumber will, if continued, completely exhaust the supply on this section of the Green Mountains within twenty years, if not sooner.

Yours truly,

J. E. McNAUGHTON & Co.

SAVANNAH, GA., May 1874.

J. HENRY SYMONDS, Esq.

Dear Sir:—Your circular received, contents noted. I have noticed your efforts to awaken an interest, in different localities, among the lumber trade in favor of a national association. I have said nothing on the subject up to this time, but I can see how such an organization may be of benefit; it certainly can do no harm and a general meeting can at least be made a social gathering pleasant to delegates from every section of the country. I can see no conflict of interests, and the better people, who do business fairly, know each other, the better it is for both seller and buyer.

I would make one suggestion in regard to the expense account of those who may wish to attend. If you write to the various railroad and ticket agents, there will be no difficulty, I think, in getting delegates passed to and from the convention for one fare; this is a matter of some moment to those who live at a distance and have to travel over expensive railroads. I shall endeavor to attend the meeting and will try to have ready some statistics in regard to the southern pine lumber and timber trade. Yours, &c.,

H. H. COLQUITT.

First Ave. cor. 39th Street, and 102 Wall Street,

NEW YORK, May 15, 1874.

J. HENRY SYMONDS, Esq.

Dear Sir:—Your circular regarding a meeting of those engaged in the lumber business, either as manufacturers, or buyers and sellers, is before us. We intend that one of us shall be in attendance. Would suggest (as it quite likely has been suggested) the great desirability of a uniform standard of thickness of lumber from all sections. We think it desirable to have it cut just enough over thickness to measure when seasoned, 1, 1 $\frac{1}{4}$ , 1 $\frac{1}{2}$ , 2, 3, and 4, as the

case may be, and not running, as now, from 1-16 to  $\frac{1}{8}$  scant or over the thickness for which it is measured and freighted.

Yours truly,  
WATROUS & WILLSON.

The above suggestion of Messrs. Watrous & Willson has not been made before in connection with the proposed association, but it immediately commends itself to every one, at all acquainted with lumber as it is manufactured in different localities, as of exceeding importance. There are, doubtless, other topics of vital interests and proper subjects for the action of the association, which have not been named but will present themselves to the minds of the those practically engaged with the daily and minute details of the lumber business.

SHARON WIS., May 13th, 1874.

J. HENRY SYMONDS, Esq.

Dear Sir,—I shall endeavor to be at Williamsport, on June 23d.

Respectfully Yours,

J. A. TREAT.

PORTLAND, ME., May, 15th, 1874.

J. HENRY SYMONDS, Esq.

Dear Sir,—We approve of your idea of a national association, and, if in our power, should be pleased to attend.

Yours Truly,

PERKINS, JOHNSON & Co.

#### THE LUMBER TRADE OF TONAWANDA.

From the annual report of the Buffalo Board of Trade we glean interesting statistics of the lumber business carried on at Tonawanda. Tonawanda is in the custom district of Buffalo creek and Niagara and is one of the important lumber marts of the east. The receipts by lake during 1873, were: Lumber, 104,-900,000 feet. Square timber, 3,210,-000 cubic feet. Logs, 37,400,000 ft.

Lath, 1,258,000 pieces. Shingles, 1,112,000. Staves, 502,000.

Exports from Tonawanda by canal, during 1873, were:

Articles.	Quantity.	Tons.	Value.
Boards and Scant, g. ft.	89,273,358	143,788	\$2,231,884
Shingles, No. ....	8,056,000	1,007	28,196
Timber, feet. ....	1,491,324	29,822	521,963
Staves, lbs. ....	5,252,200	2,626	26,261

The exports for three years compare as follows:

	1871.	1872.	1873.
Boards and Scant, g. ft.	48,650,000	47,943,796	89,273,358
Shingles, No. ....	21,182,000	17,014,000	8,056,000
Timber, cubic ft. ..	1,424,150	1,092,575	1,491,324
Staves, lbs. ....	14,643,500	9,088,000	5,252,200

#### GROWTH OF LUMBER INTERESTS ON THE CONNECTICUT RIVER.

Previous to 1872 the Mc Indoes Falls Co.'s mill, which manufactures about 8 or 9 million feet of lumber annually at McIndoes Falls, Vt., was the only large saw mill on the Connecticut river. During that year the Holyoke Lumber Co., erected a mill at Holyoke, Mass., and in the spring made a very successful drive of 10 million feet of logs from the upper Connecticut.

In 1873 the Mc Indoes Falls Co., built a mill at Mt. Tom station, near Northampton, Mass. Meantimes the smaller mills enlarged and increased their capacity, till the supply of logs, cut this winter to meet the demand of these mills at the main river, will probably reach 40 million feet. A large amount of lumber is also manufactured on the tributaries of the Connecticut.

The resources of the immense virgin forests of pine and spruce in New Hampshire, Vermont, and Canada, at the source of the river, are being developed, and about 50,000 acres of these timber lands in the northern part of New Hampshire alone have changed hands within a year or two. These mills of course will be built to help consume this harvest of logs. Hartford, lower down the Connecti-

cut, being a large market for this lumber, and where logs can be easily driven and the waste utilized will doubtless witness the extension of further lumber operations as soon as the attention of capitalists is attracted.

**INVITATION TO LUMBERMEN.**

Action of the West Branch Lumberman's Exchange—The Manufacturers of Williamsport, Pa. Invite the Lumbermen of the Country to Meet in Convention at that Place.

We have received the following circular in reference to the proposed convocation of an international association of lumbermen :

WILLIAMSPORT, PA., May 18, 1874.

I beg to inform you that Mr. J. Hy. Symonds, editor of the *Lumber Trade*, Boston, having proposed a convocation of lumbermen, for the purpose of forming an International Association of Lumbermen, the subject was presented to this exchange, at a regular meeting, held April 14, 1874, when the following resolution was unanimously adopted :

**EXTRACT FROM THE MINUTES.**

*Resolved.* That the members of the West Branch Lumberman's Exchange give their hearty approval to the proposition of Mr. J. Hy. Symonds, "to convene a gathering of the lumbermen of North America, for consultation on matters of interest to the whole trade, and to take action for the permanent Association of Lumbermen," and the same be referred to the board of directors, for them to take such action as will further the end in view.

At a meeting of the board of directors, held April 20, 1874, the following preamble and resolution were adopted :

**EXTRACT FROM THE MINUTES.**

WHEREAS, It has been brought to the notice of the Exchange that a convocation of all the lumber manufacturers in the United States and Canada, would be productive of good results to the trade, and

WHEREAS, It is believed that the meeting should be held in the city of Williamsport, as the advantages of central location and hotel and other accommodations would be unsurpassed. Therefore, be it

*Resolved.* That the West Branch Lumber-

man's Exchange extend a cordial invitation to all manufacturers of lumber in the United States and Canada, to meet in convocation, in this city, on the 23d day in June next.

*Resolved.* That the secretaries be ordered to transmit copies of these resolutions to all lumber organizations, and to papers in lumber districts, for their information.

I have the honor to be

Yours, Respectfully,

WM. RANDALL PRIOR,

Assistant Secretary.

**APPROPRIATIONS FOR WISCONSIN RIVERS AND HARBORS.**

Mr. Sawyer has reported the river and harbor bill in the House, which in turn sent it to the appropriation committee. The bill is for the appropriation of \$4,500,000 for river and harbor improvements, against \$6,000,000 in 1873.

Wisconsin will receive a very fair proportion of the amount to be expended, and justice will be done the different harbors; although it was thought by some that the appropriation of \$300,000.00 to the improvement of the Fox and Wisconsin rivers would necessarily reduce the amount appropriated to the harbors. The following is the list of Wisconsin appropriations :

Fox and Wisconsin.....	\$300,000
Green Bay.....	10,000
Menomonee.....	25,000
Sturgeon Bay Harbor (outside).....	10,000
Two Rivers.....	15,000
Manitowoc.....	10,000
Sheboygan.....	10,000
Port Washington.....	10,000
Milwaukee.....	10,000
Racine.....	10,000
Kenosha.....	10,000

The Fox and Wisconsin appropriation includes \$25,000 that may be used for flowage. The bill provides also for the survey, by the government engineers, of the Chippewa river below Chippewa falls.

In this connection we may give the sum total of Wisconsin appropri-



ations up to the present year for the last twenty years :

Southport.....	\$ 37,500 00
Manitowoc.....	191,320 00
Milwaukee.....	252,087 45
Racine.....	154,285 00
Sheboygan.....	148,448 91
Winnebago Lake.....	500 00
Green Bay.....	192,550 00
Kenosha.....	110,807 41
Superior City.....	157,550 00
Wisconsin river.....	140,000 00
Port Washington.....	60,000 00
Ahnapee Harbor.....	50,000 00
Two Rivers.....	75,000 00
Green Bay and Mississippi canal.....	445,000 00
Sturgeon Bay canal.....	40,000 00

\$2,158,057 77

#### THE FOX AND WISCONSIN.

The \$140,000 appropriation for the Wisconsin were made before the sale of the Fox river franchises to the government, for \$145,000. This amount with the \$300,000 appropriation last year, makes up the \$445,000 to the Green Bay & Mississippi canal. All told, the government has contributed \$585,000 to this improvement with \$300,000 to be added this year. The present system of Wisconsin improvements is made on a basis of four and a half feet of low water channel, at an estimated cost of about \$3,000,000 above present outlay.

#### TESTS OF THE STRENGTH OF PINE.

At the recent meeting of the National Academy of Science at the Smithsonian Institution in Washington, Prof. Norton, of Yale College, made a suggestion that may prove useful to many of our readers.

Referring to tests of the strength of pine, he said that after repeated strains a molecular change took place in the wood, and the effect of strain, after an interval of rest, to a great extent not only passed away but even left the stick with less set than it had a short time before. As one of the results obtained, it appears that a load equal to one-fourth of the

breaking weight produces a permanent set, and that repeated applications of this load from day to day are attended with a continually increasing set. It results that such wood should never be subjected in any structure to one-fourth of its breaking strain.

#### LOGS AROUND EVART.

The *Ewart (Mich) Review* gives the following statement of the logs got out on the Muskegon river at and above Ewart, and between Ewart and Hersey the past season. Of course the log crop is much smaller than in former seasons, but the statement will give an idea of the extent of the business a boom company would have, located at Ewart :

#### AT AND ABOVE EVART.

Hall & Davis.....	10,000,000
J W Norton & Co.....	10,000,000
Scott Gerrish.....	6,500,000
Gerrish & Murphy.....	2,500,000
D A Blodgett.....	7,000,000
Madner & Ladner.....	3,000,000
A W Cadwell.....	2,000,000
Kelley, Wood & Co.....	5,000,000
A R Simpson.....	4,000,000
Wm Hamilton.....	2,500,000
C Hutchinson.....	1,000,000
McFarlane Bros.....	7,000,000
A Brandow.....	2,000,000
Watson Bros.....	3,000,000
N Gooung.....	5,000,000
Green Bros & Mason.....	5,000,000

#### BETWEEN EVART AND HERSEY.

A Brandow.....	6,000,000
E Brandow.....	2,000,000
	83,500,000
Hung up 1873.....	30,000,000
Total.....	113,500,000

WOOD TRADE.—The consumption of wood for fuel steadily decreases, other than for kindling purposes. The sale in this city in 1873 were estimated at 40,000 cords. The supply was drawn from Canada and the wooded sections of country around the city, as well as from along the lines of the Buffalo, New York and Philadelphia and other railroads.—*Annual Report of Buffalo Board of Trade.*

LUMBER TRADE OF BUFFALO.

From the Last Annual Report of The Buffalo Board of Trade.

The year 1873 opened with a moderate business in lumber, later a slight improvement was manifested, which continued for a short time only, and the market closed from the time of the panic in September, dull. The prospect for the coming year depends, of course, upon the quantity cut and rafted during the winter, but the indications are, from the mildness of the season, that the product will be light, and prices in consequence higher. The following interesting statistics are worth perusing.

The following statement shows the movement of lumber, etc., at Buffalo, for four years:

IMPORTS AND EXPORTS BY CANAL.

Articles.	IMPORTS.				EXPORTS.			
	1870.	1871.	1872.	1873.	1870.	1871.	1872.	1873.
Lumber, feet..	1,915,448	945,907	1,081,731	859,505	168,264,218	141,648,046	147,519,491	120,106,960
Timber, cu ft..	1,017,800	2,177,500	811,200	369,900	12,880,000	6,725,000	4,200,000	4,223,000
Staves, lbs..	.....	.....	12,000	369,500	226,808,384	133,781,692	196,803,395	185,144,862
Shingles, No..	.....	39,000	.....	.....	40,562,000	98,109,000	21,175,000	19,008,000

IMPORTS BY LAKE.

Articles.	1870.	1871.	1872.	1873.
Headings bbls.....	18,890	16,004	14,213	33,594
Hoops, No.....	32,975,311	19,837,200	24,965,600	21,863,470
Lumber, feet.....	151,000	19,488	204,976,754	200,104,800
Lath, pieces.....	217,247,916	207,755,198	6,105,654	9,497,969
Rollroad Ties, No..	4,784,770	4,458,940	89,984	22,890,722
Staves, No.....	131,423	22,807,310	22,647,000	16,887,756
Shingles, No.....	23,458,322	140	141	37,330
Shocks, bundles..	36,081,156	87,050,111	16,039,800	16,887,756
	65,938	97,754	37,330	32,062

IMPORTS BY RAILROADS AND TEAMS.

Lumber, feet.....	12,000,000	10,000,000	12,500,000	20,600,000
* Estimated.				

AVERAGE PRICES.

The prices at the yards during 1873 were about as follows, per 1,000 feet:

Basswood.....	\$12.00@25.00
Pine.....	15.00@50.00
Ash.....	13.20@38.00
Whitewood.....	15.00@35.00
Oak.....	15.06@35.00
Cherry.....	20.00@60.00
Maple.....	13.00@35.00
Chestnut.....	13.00@40.00
Walnut.....	32.00@75.00
Hickory.....	15.00@40.00
Lath @ 1,000.....	2.75@ 4.00
Shingles, do.....	3.50@ 5.50

The receipts at the adjoining port of Tonawanda, in 1873, were as follows: 104,900,000 feet of lumber, 3,210,000 cubic feet of square timber, 37,400,000 feet of logs, 1,258,000 lath, 1,230,000 hoops, 502,000 staves and 1,112,000 shingles. During the same period the exports by canal were 89,273,358 feet of lumber, 8,056,000 shingles, 1,491,324 cubic feet of timber and 5,252,000 pounds of staves. No record was kept of the receipts of previous years; but the export tables show an increase of shipment of about 42,000,000 feet of lumber and 400,000 feet of timber, and a large decline in shingles and staves.

The stock of lumber on hand in

the yards at Buffalo indicate that it is a fair average one and the assortment good.

The receipts at Albany and at tide water by the Erie and Champlain canals were as follows in the seasons of 1872 and 1873:

Articles.	AT ALBANY.	
	1872,	1873.
Boards and Scantling, feet..	431,343,700	346,670,300
Shingles, M.....	12,602	12,362
Timber, cubic feet....	2,800	12
Staves, lbs.....	7,876,600	4,800,000
Articles,	AT TIDE WATER.	
	1872.	1873.
Boards and Scantling, ft.....	760,367,100	579,387,600
Shingles, M.....	25,409	15,430
Timber cubic feet.....	1,489,522	1,138,466
Staves, lbs.....	200,450,400	208,060,100

Stock on hand at Albany, January 1, 1874, estimated 115,000,000 feet of lumber, against 110,000,000 feet in 1873 and 86,000,000 feet in 1872. In Troy 54,000,000 and Oswego 22,000,000 feet on January 1, 1874.

There were shipped from East Saginaw and Bay City 418,970,955 feet of lumber, 36,562,925 lath, 44,862,000 shingles, 8,062,898 staves, 13,379,600 hoops and 4,201,920 cubic feet of timber, in addition to the movement by rail, which was also very large. Of these quantities, Buffalo received 86,347,578 feet of lumber, 5,904,600 lath, 3,925,000 shingles, 5,491,533 staves, 8,499,600 hoops; and Tonawanda 2,239,000 cubic feet of timber, 2,258,000 hoops, 2,936,000 shingles, 1,234,000 lath and 83,676,227 feet of lumber. The total value of all lumber shipped as before mentioned is estimated at over \$12,000,000.

The total cut of lumber during 1873 in Michigan was 2,120,885,124 feet, of which 435,370,000 feet were on hand at the end of 1873. The amount of logs on hand is 523,970,000 feet; the quantity to be put in this winter is 914,000,000, making the aggregate of logs for next season at 1,437,970,000 feet. Another account makes the cut of lumber for

1873 three billion feet, including the lumber used for shingles.

The lower peninsula of Michigan is estimated to have pine timber standing to the amount of 33,000,000,000 feet.

During 1873 over 242,000,000 feet of lumber were shipped from Williamsport, Pa.; 70,000,000 feet over Philadelphia & Erie Railroad, a part of which came to Buffalo.

The lumber trade of Canada for 1873 foots up in value to nearly \$24,000,000 in gold. The exports to England were valued at \$12,776,984, and to the United States \$9,164,038; the remainder having been sent to all parts of the world. The timber of Ontario goes chiefly to the United States; while Quebec exports to England, the United States and South America. The maritime provinces send to the West Indies and South America the bulk of their product. British Columbia has inaugurated a commerce with Chili, Peru, China and the Sandwich Islands.

Nothing occurred in the manufacture of shingles, or in the trade in white and red oak staves at Buffalo worthy of notice.

(The difficulty in obtaining statistics of this important interest, as far as the trade of Buffalo and Tonawanda is concerned, is very great. It is a matter of surprise that the dealers, receivers and manufacturers of this description of property do not meet daily in the Board of Trade rooms and let the "outside world" know something of the magnitude of their operations.)

**MANUFACTURES OF WOOD.**—All kinds of wood-work are very extensively manufactured here. Doors, sashes, blinds, house furniture, pails, tubs, moldings, bellows, faucets, cisterns, picture frames, refrigerators, trunks, school furniture, etc. Buffalo has progressed steadily in this branch of trade. A few years since, there were only about a dozen small establish-

ments in existence all told. The articles enumerated were made in other cities and sold here in a retail way; now orders come from all parts of the states, attesting thereby the excellence of the products of our factories.—*Annual Report of Buffalo Board of Trade.*

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#### ANCIENT TREES.

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The town of Overton, situated in Flintshire, by the Dee, is thickly studded with splendid yews, which forms one of the lesser wonders of North Wales. The yews are of various ages; one very old one is fast going to decay; the trunk is quite hollow, and the cavity quite large enough to hold several people comfortably. Its circumference is thirty feet, three feet from the ground. There are twenty large yew trees in Denbighshire. One measures twenty-nine feet in circumference, five from the ground; it is more than sixty feet high, and is about 1,450 years old, planted in the year 426, when the Romans finally left Britain, Wales being at that time a Roman province. In Derbyshire there is a very large old yew tree, which is a great source of attraction to visitors, and is said to be the largest and oldest tree in the kingdom. It measures thirty-three feet around the trunk, and though bereft of many of its branches, is still in full vigor. In Dorsetshire there is now standing an immense yew tree, which measures thirty-seven feet in circumference. The trunk is quite hollow; it is entered by means of a rustic gate, and seventeen people lately breakfasted in its interior. One in Staines is upward of 1,000 years old. The great yew at Fortingal, N. B., is stated by Gilpin to measure fifty-six and a half feet in circumference, and is supposed to have been a tree at the commencement of our Christian era. It still remains, and was visited by Mr. Neil, the naturalist, in 1833.

There are some fine yews around Fountains Abbey, curious in themselves as well as historically interesting; they are said to have been full grown when the abbey was built in 1132. At Hanchurch there is a spacious quadrangle formed by many old yews; a church is supposed to have once stood here. There is also a remarkable avenue of yews at Hales Hall, Staffordshire; and again some remarkable yews at Himley, Caverswall and Tixall. The yew was a sacred tree among the Northerns. Its ancient British name was *ye* or *ywen*; the former (pronounced *yew*) is the plural, the latter the singular; its botanical name is *Taxus baccata*. Evelyn speaks of a holly edge in his garden measuring a hundred and sixty feet in length, seven feet high and five feet in diameter. In Keele Gardens, near Newcastle, the seat of the Rev. Walter Sneyd, there is growing a holly edge a hundred and ten years old, one hundred yards in length, six feet wide at the top, twenty feet wide at the bottom, and thirty-two or thirty-five feet high. Speaking of the old trees of North Wales, there is a splendid avenue at Wynastery, near Wrexham, upward of a mile in length, formed of fine oaks, elms, limes and beeches; one ash, called the "King," measures thirty-six feet in circumference.

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#### The *Fond du Lac* Commonwealth says :

A gentleman who has recently traveled through the towns of Marshfield, Caumet, Osceola, Forest, Auburn, Ashford and Eden, in the eastern part of this county, informs us that the winter wheat is looking exceedingly well, and that in the whole distance he saw but one or two fields in which the grain had winter-killed. This is much better than was expected.

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Subscribe for the WISCONSIN LUMBERMAN—only \$2.00 a year.



**GOV. WASHBURN'S GREAT FLOURING MILL AT MINNEAPOLIS.**

The Minnesota *Farmer's Union* gives the following description of the mammoth flouring mill, built by ex-Gov. C. C. Washburn, at Minneapolis, the motive power of which is furnished by the Mississippi river, at St. Anthony Falls.

The Washburn flouring mill at Minneapolis, is one of the wonders of this country. No where in the United States or Canadas is there anything to compare with it in size, while in the entire world there are but one or two larger.

It was begun in May last, and has been pushed forward to completion in less than a year by an army of workmen, at a cost of \$250,000. The building is 100 by 137 feet in size, built in blue limestone in courses, and is six and one-half stories in height, or ninety feet from ground to roof.

It contains forty run of stone, driven by two five-feet, polished bronze wheels, manufactured in Chicopee, Mass., of 250 horse power each, which cost, with the excavation in which they are set, \$25,000. Some idea of the water power in Minneapolis may be gained from the fact that the water which drives them has a head of forty feet.

The stones are silicious quartz, and were selected in France by Mr. George H. Christian, the superintendent of the mill, from the quarries at La Ferte, near Paris, at which place the best stones in the world are found. Mr. Christian visited the leading millers of France and Italy in search of all the latest improvements in making flour, and purchased whatever of value he could find for the new mill at Minneapolis.

Of course it grinds the "patent flour." Mr. Christian was the first to introduce the method in this country. The machinery for it was placed in the first mill built here by Mr. Washburn, in 1871, and has now

come into general use. The new flour, as most of our readers know, is made of middlings. The wheat is first ground coarse, and then goes through the separator which removes the bran; then the middlings, containing the gluten and other nutritious properties, are ground again, making a most superior article of flour. To make the best flour, it is necessary to grind the wheat very slowly, and from four to five bushels an hour only are now run through, in place of from eight to twelve, as formerly.

The mill is owned by Gen. C. C. Washburn, of Wisconsin, who has made investments in Minneapolis, in one way and another, to the amount of \$500,000. He has spared no pains or money to make it as nearly perfect as possible. It is heated by steam, lighted with gas, supplied with water from the Holly pumps on every floor, and admirably protected against fire, the boilers being entirely outside the building, and hose in every room ready to be attached to the water pipes if necessary.

The flour manufactured here, with the bran, will fill a train of cars a day.

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**CARSON WOOD DRIVES.**—Fred F. Stadtmuller, of Empire city, who was in this town yesterday, informs us that a drive of 3,000 to 4,000 cords of wood arrived at his town two or three days ago. This wood came from the lower part of Alpine county and was picked up along the banks of the river where it was lost from the big drives of last year. Another drive of 8,000 to 9,000 cords is expected shortly, but the main drive of the year will not arrive until some time next fall. In all, the drives of this season will amount to 100,000 cords. There are now on hand at Empire city about 30,000 to 40,000 cords of wood.—*Virginia City (Nevada) Enterprise, May 6.*

## SAWS AND SAW MILLS.

Like every other device which contributes to the sustenance or comfort of mankind, the saw has a history worthy of perusal. By whom it was invented no authentic record remains to show; but the idea of its construction and use is said to have been first derived from the back bone of a fish or the jaw or teeth of a snake. So simple and obvious is its principle that it may easily have sprung from either of these, or from any other suggestive source, even if a purely accidental one. The value of the invention, if such it may be called, was so highly appreciated by the Greeks that its reputed author was exalted to a place among the deities, and received the name of Perdix, or Talus, as others have it. The saws used at that period were of extremely primitive form, and were usually placed across the middle of a frame, being held flatwise and drawn to and fro by two workmen, one at each end. The ancient Egyptians used saws of bronze, single-handed, placing the log on end and securing it to posts set in the ground. In our own day, in countries which are counted as fully civilized, and in which, in fact, the arts and sciences have flourished for many centuries, and reached their highest development, so rudimental a process as that of sawing is very imperfectly understood. Horace Greeley, in his account of the brief tour in Europe taken by him in 1851, speaks of an Italian wood Sawyer, whose performance attracted his particular attention, from the fact that instead of applying the saw to the wood he took the stick of wood in his hands and rubbed it upon the saw. Mr. Greeley estimated that a smart American would saw as much wood in an hour as the Italian laborer would saw in a week. In Greece, as well as in most Asiatic countries, the hand saws are made with the teeth pointing toward the handle, contrary

to the form in universal use in England and America. Such saws are, of course, made to cut by being pulled toward instead of pushed from the workman; and for some kinds of work this arrangement is strongly recommended by high authority, one of its chief advantages being that the saw is not liable to bend or "buckle" when pulled, as it does when pushed. For key-hole saws, and in cases where a thin and narrow saw is required, it is believed that the pulling cut might be generally adopted with excellent results.

The first sawmill, or rather the first case in which a saw was run by any other than hand-power, dates back at least as far as the thirteenth century, there being a manuscript of that period which contains an illustration of a saw propelled by a water-wheel. How long anterior to that date such devices had been known there are no means of ascertaining. Saw mills were run by water power in Germany in 1322; and they were quite common in Holland for a full century before their introduction into England.

A curious and striking illustration of the absurd prejudice on the part of the laboring people which many valuable inventions have encountered, is afforded by the fact that for more than one hundred years English workmen would not permit a saw mill to be established in that kingdom. An enterprising Hollander made the attempt in the vicinity of London in 1663; but the hand-sawyers, fearing that their occupation would be gone, worried and threatened him until he gave up the project. In 1700 the idea was again brought forward; but so violently was it opposed that no actual prosecution of the scheme was undertaken. An interval of nearly seventy years elapsed, and in 1768 a saw mill was built at Limehouse, by James Stansfield, under the auspices of the Society of Arts; but a mob speedily gathered and tore it down. This was the last

occasion on which the unreasoning enmity of the hand-workmen was allowed to quench the spirit of invention, for in due time the effort to establish saw mills was renewed, and under the protection of the government, aided by the dawn of a more intelligent sentiment among the laboring classes, was soon an assured success.

In our own country, thanks to the enterprise of the Dutch and Swedish settlers, and the fact that with a sparse population the demand for labor was far greater than the supply, while the call for its products was constantly on the increase, the introduction of improved machinery was always hailed as a blessing, and met with none of the opposition which it encountered abroad. As early as 1633 a number of saw mills were in operation in New York, and they were not long in making their appearance in the other colonies.

#### THE LUMBER TRADE OF DARIEN.

*From the Brunswick (Ga.) Seaport Appeal.*

Not many years ago the large rice planters of the county supported and kept up Darien, for there was comparatively little or no timber brought and sold in this market. In ante bellum times the prosperity and wealth of the planters was unprecedented, they made large crops of rice on their plantations along the line of the Altamaha River, and large crops of the very finest Sea Island cotton on the islands and the mainlands, the large portion of them selling their crops here in the city, for which they received supplies from the large and wealthy merchants with which they clothed and fed their slaves, and the surplus was paid them, which they annually invested in negro property and the improvement of their plantations and homes; and when the "alarum" of war sounded, the sea coast and river shores was dotted with suburban villages and magnificent residences. And it

was only until a few years before the war commenced that timber found a good market here. Even at that time timber commanded a good and paying price, but the trade and price cannot be compared with the present day, and it has only been since the war that land owners in the interior, who had thousands of acres of land, that to them was worthless and valueless, have found out that that portion of their "worldly possessions," was the most valuable and paying, and the consequence was, urged by the high prices, they embarked in timber cutting. They have steadily, for the last seven years, been straining every nerve, and exerting their power to bring to this market all the lumber they could raft. Thousands and thousands of dollars, yea, fortunes after fortunes, have been rafted down the great Altamaha and its tributaries, and one not well informed with the supply of good merchantable timber along the water courses would think that the same steady and unceasing cutting would have so greatly diminished and reduced the quantity that by this time little or none would be left to come, but they are mistaken; they know not of what they speak, for the present supply now standing cannot be exhausted for many years yet to come. At the present day the timber is the principal source of revenue to the merchants, and one who has never been here during the season can form no correct or definite idea of the actual amount of money paid out by the buyers for timber, and the consequence is fully one-half of that money is never carried out of the city by the settlers, but is given to the merchants here, for which they get merchandise at about the same prices as in Savannah, and since we have a steamer on the line between Darien and the landings up the river, a great many, if not the majority of the cutters get their supplies from our merchants; and have been carried almost to their very tent doors.

The public have but to see the statement of the amount of timber annually brought here and sold or shipped to northern and foreign ports to be convinced of the amount of business done in this city, and although the market for the last two weeks has been and is still "glutted," yet the prices are satisfactory to the cutters. There is no grumbling or dissatisfaction among the cutters toward the buyers, for being reasonable, sensible men, they are contented to receive only what their timber is really worth and allow the purchasers to live. So far as the trade is concerned, Darien may truly be termed the yellow pine port of America.

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#### PRESERVATION OF WOOD.

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In attempting to protect wood from the action of the weather, or of the moisture of the soil in which it is buried, two points have to be taken into consideration. First, to find a suitable preservative material; and secondly, to invent a simple and practical method of introducing this material into the wood to a sufficient depth. The latter has been accomplished by Boucherie by the weight of a considerable column of liquid, while Breant, Fleury, Personnet and others preferred to exert a pressure in closed vessels. But, so far, less success has attended all attempts to find a suitable preserving fluid. Some, who ascribed the decay of wood to the action of animal and vegetable parasites, have sought to impregnate it with poisons, such as the chloride of zinc and sulphate of copper. The latter substance is still used by a few corporations in France; but all such soluble salts can act only for a short time, since rain and the moisture of air and soil necessarily dissolve them out after a while. Others have taken patents for impregnating them with insoluble substances precipitated in the wood by the successive action of two soluble substances. Among the latter are

phosphate of iron, sulphate of baryta, silicate of iron and the like. These methods have in general one common disadvantage—that the acids set free by the mutual decomposition and precipitation attack the fibre of the wood, and hence none of these have remained in use. More recently the saturation of wood with cresote was adopted and practiced in England. This does, indeed, prevent decay, but does not harden the wood. The process is expensive, the operation difficult, the apparatus costly, much time is required, and the liquid requires to be analyzed frequently to ascertain whether it is still in good condition; and besides all this there is great danger of fire.

A manufacturer of Nancy, France, named Hatzfeld, had long been considering why it was that oak lasted longer than other wood. In 1830 some oaken piles which had been buried since 1150 were dug up in Rouen; they were not only as black as ebony, but wonderfully hard. Hatzfeld referred this property of oak wood to the large quantity of tannic and gallic acid contained in it, and is of the opinion that the abundance of tannic acid produces an effect upon the fibers of the wood analagous to that of tanning on animal hide, forming a hard, insoluble and impenetrable compound, which can resist, without change, the influence of heat and moisture. Chemistry had long been referred this dark color to a union of the gallic acid of the wood with iron, of which there is more or less present in all soils. This tannate and gallate of iron Hatzfeld considers the best preservative against decay. He therefore proposes to impregnate the wood with tannin, and afterward with acetate of iron, and thus to place the wood in the ground at once, in the same condition, to some extent, as that which had been taken out of the earth after the lapse of three centuries. The method has the advantage of being cheap, while the acid used



does not attack the fibre of the wood. At the present time a French telegraphic company are testing the new process on a large scale, on the Nancy-Vezelise line, the poles being prepared at Nancy under the direction of Hatzfeld himself.—*Jour. of Ap. Chem.*

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#### RUNNING A RAFT.

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It is just three miles from Wausau to Sturgeon Eddy, and the river has numerous crooks and turns, and is well filled with islands; besides that, the water is very swift. It takes about three men to run a rapids piece of lumber to the eddy safely, and one of them, at least, should be an experienced hand.

Last Friday one of our venturesome youths having made a small wager that he could run a piece to the eddy, (he having never been over that part of the river) started with some of his friends to try his hand. The company consisted of one boot and shoe merchant, one jeweler, two lawyers, one surveyor and two other gentlemen. They secured a rapids piece of lumber of Ed. Zastrow, and started out. It did not need a prophet to tell that something would happen to that lumber, with such a motley crowd for deck load. They started, but forgot to take either ax, augur or cable, and in the first 100 feet run broke the coupling of two cribs and unshipped the bow oar; but the piece did not stick, on they go, a good lift by all hands and the oar is again in its place. The pilot dauntless and brave stands at the helm, and to the oft repeated question "can't you go near enough to shore to let me jump off?" answered "nary a word." Each one had an opinion of his own as to where the lumber ought to run, the surveyor and the lawyer had the most to say, and their opinions were entitled to some weight, as they are both used to running, but the surveyor follows straight lines while the lawyer's line

of life has many crooks and turns. Such conflicting counsels are not good to run the river by, and so in spite of the pulling, first one way and then the other, the raft resolutely kept in the water and followed the channel passing Rib islands, the piece reached Sturgeon Eddy and did not stick. In fact, we think if that crew had run it six miles further, there would not have been a stick left.

At Sturgeon Eddy they set up a cry for help, and thanks to a friendly crew of raftsmen, anchored there, a cable is thrown to them and they are saved, (saved from walking a few miles farther,) three miles walk to town they reach the Mathie brewery and stop, the brewer tells them he can't retail beer (he would never have mentioned retail if he had known that crowd) but said "I'll treat." Unlucky brewer, that was the thirstiest crowd you've met in many a day, they were "holler clear from skull to boots," we'll wager a goat skin that brewer don't offer to treat a lot of boiled shirt and plug hat river men again, in six months, if not longer. Ye boarding house keepers wondered that night what made the boarders have such good appetites; we knew, we went tired to bed and thought that we were the same sort of simpletons that we used to be, when we rode down a long hill for the fun of drawing a heavy sled back to the top.—*Wausau Pilot.*

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The fires on the west side of the Wolf river, recently, not only destroyed much valuable standing timber and cord wood, but invaded the premises of the farmers and the shanties of the drivers on Red river. The shanty of Mr. W. E. McCord was destroyed, with its entire stock of provisions, the men having barely time to save a few clothes. By hard labor the farmers succeeded in keeping the fires from their fences and buildings until Sunday evening, when a lull in the wind and a smart shower put them out of immediate danger.

## THE LUMBER TRADE OF MILWAUKEE.

What W. J. Langston Has to Say About the Lumber Trade of Milwaukee in the Sixteenth Annual Report of the Chamber of Commerce.

The lumber trade of Milwaukee has steadily increased during the last four years with the improved railway connections between this city and the southwest. The most important outlet in that direction, however, is looked for in the construction of the projected Milwaukee & St. Louis Air Line Railroad, in which our lumber merchants and the vast lumber interests developed by the building of the Wisconsin Central Railroad are equally interested. The Western Union Railroad has given our lumber trade access to a limited portion of Northern Illinois and Iowa, but the inadequacy of the rolling stock of that road and the unfortunate lack of harmony that has existed between it and connecting lines, has greatly retarded business during the past year. A more direct connection between Milwaukee and the Iowa Division of the Chicago and Northwestern Railway, would be of the greatest advantage to our lumber merchants, because it would open to them an immense region totally bare of pine timber, and at the same time put an end to the ruinous discrimination which the Milwaukee & St. Paul Railroad is now forced to make against Milwaukee in competing with the Chicago & Northwestern Railway for the transportation of lumber from the northern part of the state to competing points in the southwest. This connection, which can be accomplished by the addition of a short link to the Kenosna & Rockford branch of the Chicago & Northwestern Railway, is annually becoming more essential to the latter road because of the increasing grain trade between Milwaukee and its lines in Iowa, and now that the Northwestern has acquired so large an interest here, this connection will become a necessity at no distant day.

The receipts of lumber at this market for 1873, from all sources, foot up an aggregate of 136,000,000 feet, 93,233,000 shingles and 11,958,000 feet lath, an increase of 44,700,000 feet lumber, 64,700,000 shingles and 6,750,000 feet lath, compared with the business of 1872. An examination of the appropriate table will show the sources whence these receipts were derived, and also the amount and direction of shipments hence by rail.

The want of more liberal transportation facilities is still the chief source of complaint among our lumber merchants, but it is equally as important to the railroads as to the lumbermen to do as much business as possible. No doubt our railroad managers make the best use they can of the facilities at their command. It is claimed that the new tariff under the new railroad law will operate greatly to the advantage of the lumber trade of Milwaukee.

The following is the tariff of rates on lumber by the car load, adopted by the Wisconsin Central Railroad from the points named to Milwaukee and Chicago, showing that in the matter of lumber supply by rail as well as by lake, Milwaukee has now a decided advantage, and only needs more liberal means of distribution to extend her lumber trade greatly beyond its present limits.

TARIFF OF RAIL FREIGHTS PER WISCONSIN CENTRAL RAILROAD FROM WISCONSIN LUMBER REGIONS TO MILWAUKEE AND CHICAGO.

From.	To Milwaukee.	To Chicago.
Green Bay and Depere.....	\$21.00@22.00	\$31.50
Menasha.....	21.00@22.00	35.00
Weyauwega.....	24.00@25.00	37.50
Stevens Point.....	25.00@25.00	38.50
Other Stations North-westward.....	27.00@37.00	40.50@5 <sup>00</sup>

The inside rates are the regular charges to the depot of the Wisconsin Central in this city, \$1.00 per car extra being charged for transferring to other depots.

Subscribe for the WISCONSIN LUMBERMAN—only \$2.00 a year.

**CHIPPEWA RIVER SURVEY.**

*From the Eau Claire, Wis., Free Press.*

The river and harbor appropriation bill has passed the House. Its passage in the Senate insures the survey of the Chippewa river, as the Secretary of War is directed to survey the Chippewa, below Chippewa Falls, to its mouth.

The citizens of this valley are hearty in their commendation of General Rusk, for his prompt and energetic action, in getting a recognition that we do not belong to another hemisphere, but are a part and parcel of the United States, and as such, our navigable streams are as much entitled to protection and development as those of any other portion of the country.

This is the first time, in the way of appropriations, that we have ever been recognized, though there was, in 1867, we think, a \$5,000 appropriation made, at the instance of outside parties, for the purpose of getting Beef Slough declared navigable, and this was conducted in a manner that did not meet the approbation of our great lumber interests, and, indeed, was the survey so imperfect that no good results followed—rather bad ones.

The Chippewa River Improvement Company, organized under a charter from the state, we think, in 1866, agreed upon a policy for improving the navigation, something similar to that recently adopted by Congress for the improvement of the mouth of the Mississippi, to wit: A system of pilling and closing bayous, so as to confine the water to the channel, which, by its own rapid action, would keep open a perfect channel and prevent the forming of those numerous bars, which appear wherever the river spreads over a large amount of ground. This was never carried out, from the fact that the lumbermen found themselves unable to do it from want of means. Hence, as business has enlarged here, they more and

more find themselves crippled in running their products to market, during the seasons of low water. As we have already stated, this is the first aid ever extended to the valley under petition of those most deeply interested in its settlement and development. We hail it as an era, a step in the future, whereby something substantial shall be done to improve and protect our navigation, invite capital and population more largely to our midst. Every laborer, farmer, mechanic, manufacturer, in fact all industries, will move forward with firmer and steadier step as it becomes certain that this great pinery, tributary to the Chippewa Valley, is to be here manufactured, and from here seek the markets of the world.

To give the public an idea of Gen. Rusk's promptness of action, we will state: In January he was written to on the subject, and he immediately replied that the present Congress was against any new appropriations whatever, but if the business men would state what they wanted he would make an effort.

Messrs. Porter, Kempt and Gleason prepared a statement, which was signed by the business men of this city. Two hundred and fifty thousand dollars was asked for as sufficient to complete the work thought to be necessary. Upon sending this to Gen. Rusk it was found that before any appropriation could be made it would be necessary for a survey by an engineer of the United States. This survey the General took prompt action to provide for, and so far as his branch of Congress is concerned, it is settled.

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**NORTHERN CAPITALISTS IN GEORGIA.**  
—The great Georgia Land and Lumber Company, which owns 400,000 acres of the finest timber land in the state, and whose capital is \$1,500,000, has for its president Hon. W. E. Dodge, of New York, and our business agent, William Pitt Eastman, a

native of Gilmanton, Me. Recently a new county was formed in Georgia, which included so much of the land of this company that the state named it Dodge county, and the shire town Eastman, in honor of the above mentioned gentlemen. In return, Messrs. Dodge and Eastman presented the county with an elegant court house, said to be the finest in the state. The presentation was recently made, and there was a celebration and great rejoicing. Mr. Eastman has an elegant summer residence at Gilmanton.

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### MICHIGAN LUMBER.

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#### Continued Dullness of the Market—Shipments from the Saginaws and Elsewhere:

*From the Saginaw Courier, May 21.*

The universal answer to the inquiry as to the state of the lumber market is "dull is no name for it." There are no buyers in the valley to speak of at present, and, comparatively speaking, few transactions are taking place.

The reasons for this state of affairs are obvious. Perhaps the most prominent is that there is a general stagnation in business throughout the country, and particularly so with the lumber and building business. In all the yards of the leading marts east stocks are reported light, but there is also a correspondingly light demand, and consequently dealers will not fill up until they can see their way clear. There is not much change to note in prices here. Sales as high as \$6.50, \$13 and \$35 have been made, but the prevailing figures may be said to be \$6, \$12 and \$35. If sales have been made at a less figure than these they have not been made public. The impression among lumbermen is that there are no favorable prospects for livelier times for a month or six weeks yet. By that time it is hoped the financial muddle in congress, which has tended to un-

settle business interests generally, will have been disposed of, and when business men know to a certainty on what they can depend, a reaction for the better will take place.

#### SHIPMENTS BY LAKE.

Freights on lumber have been unusually low this season, owing to the dullness of the trade; but, notwithstanding this, the shipments thus far this season exceed those made from the opening of navigation to June 1st, during the past three years. The shipments up to the 16th show that 32,738,219 feet of lumber has gone forward from this port, and a total from the river to that date of 83,111,545 feet, against 32,523,500 feet shipped to June 1st last year from this port, and a total from the river to that date of 83,769,325 feet. The shipments during the balance of the month, it is safe to predict, will equal if not exceed, those of the first half of the month.

#### LAKE FREIGHTS.

Vessel owners find it very difficult to obtain freights at living rates and consequently many boats are lying idle. Quite a number of craft are leaving the Saginaw lumber trade and seeking freights elsewhere. The rates to Ohio ports are \$2, and \$2.50 is the best obtainable to Buffalo.

#### BY RAIL.

Shipments of lumber and shingles by rail continue quite large. Two or three trains per day go over the J., L. & S. R. R., and the F. & P. M. is doing a heavy freight business. These shipments are mostly to fill small orders in the interior towns of states east and south.

The *Grand Rapids Democrat* states that the lumber shipments for the month of April over the Grand Rapids & Indiana railroad are larger than they have been at any time since the road commenced operations.

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## THE BANE OF PINE LAND OWNERS.

**Michigan Threatened With Another Season of Forest Fires—Serious Damage on Several Leading Railroad Lines—One Million Feet of Lumber Burned on the State Road.**

"Fire in the woods," the most formidable enemy the owners of standing pine, is at work this season in Michigan.

Of the damage thus far done, the *Saginaw Enterprise* of the 20th inst. says:

From a gentleman who arrived from the north last evening we learn of a series of disastrous fires which have taken place and that are still raging. The shingle mill of C. N. Kennedy, at Clare was burned yesterday, involving a loss of \$4,000.

Fires are raging along the line of the F. & P. M., and a number of fences have been burned. Forty cords of wood belonging to the railway company were burned about five miles north of Clare. The fire is still raging at various points along the line of the road, and everything being as dry as tinder the danger is imminent.

We also learn from parties coming in on the S. V. & St. L. Road that the fires are raging to an alarming extent at various points along the road, and that unless rain comes to the relief the damage will be great.

The same is true along the J. L. & S. R. R. We heard several reports last night of extensive fires, and that several towns were threatened.

The fire reached the State Road from the clearings north of the railroad about noon on Saturday. A large quantity of lumber, amounting to some \$1,500,000, was piled up at the intersection of the railroad with the State Road, and before it was discovered the fire had ignited this lumber, which was totally destroyed. The lumber was owned by Linsey & Co., of Detroit. This fire was the most serious along the line of the

road, and burned a large boarding house in close proximity to the lumber pile. The fire was so severe as to totally destroy the road for a quarter of a mile, and the passengers and freight had to be transferred for a short time over the destroyed track. Superintendent Bush immediately went to the scene of destruction in a special train, accompanied by a strong force of track repairers, and while we write the road is all in running order again. The locality of this fire is north of Kawkawlin. Quite a number of fires are raging north of this point, but as yet no serious damage has been done. Fires are running through the woods south of St. Charles, between that place and Owosso.

## FIRE IN THE "FALLOWS" AND "SLASHES."

We do not seek to disguise the fact that if the much needed rain holds off, the damage will be immense. So far, the fires have been confined to the "fallows" and "slashes" made by settlers since the fall of 1872; but it is useless to deny the fact that the continued dry weather has left everything consumable in a present condition of ignition, which may take place at any moment. And in this connection we may be permitted to give a word of warning to citizens relative to danger from fire. Everything is in a condition which invites ignition from a stray spark, with untold disaster as the result.

Relative to the fires now raging the *Bay City Chronicle*, of Sunday morning, has the following:

We are in the midst of another season of forest fires, it would seem. Accounts from the northern extension of the J. L. & S., from the Saginaw Valley & St. Louis, from the western division of the F. & P. M., and from the line of the D. & B. C. Railways, say that extensive fires are raging in various places in those localities. As reported the other day, the country is suffering for rain, and is already very dry and liable to be run over by fires.

At the state road crossing of the J. L. & S. Road a large quantity of lumber belonging to Pat. Gamble has been burned, and the hotel at the same point was yesterday in imminent danger. A gentleman who came down from that country last evening reports that it was with extreme difficulty that teams could pass along the state road, so fierce were the fires in the woods on each side. On the D. & B. C. Road it is reported that a large tract of pine near Lapeer was yesterday on fire, and burning fiercely.

#### LOSS OF ONE MILLION FEET OF LUMBER.

From Mr. George W. Hotchkiss, who reached the city at 11 o'clock last night, on the train that was due at 6:35, we learn that heavy fires are raging all along the line of the J. L. & S. R. R. north. At Kawkawlin the woods east of the station for a mile are burning. At a point one mile west of Kawkawlin there was also a heavy fire. At State Road Crossing the fire crossed the track about 1 o'clock p. m., and the large quantity of lumber belonging to Gamble (Peter) and Linsey, of Detroit, were soon in flames. Forty-two piles, containing about 1,000,000 feet, valued at about \$15,000, were totally destroyed. Only seven piles were saved by the few sober men who could be found in the neighborhood. Had there been less whiskey about the settlement less property would have been lost. Three or four small buildings, including the hand car house, were burned. The trains from the north were unable to pass in consequence of the rails being warped and twisted with the intense heat. Conductor Oliver took a hand car for Kawkawlin and telegraphed for an engine from Saginaw City, with which and a freight car, the passengers having walked around the break, they were brought to the city. At Saginaw a heavy fire was raging, as also at Deep River, Sterling and Clyde. At these places the mills were shut down and all the men who could be found were fighting fire. At Wells Station

the fire, which had been hot, was apparently about extinguished. Unless spring rains should bless the country, a repetition of the scenes of October, 1871, may be looked for. The country is parched, no green thing as yet appeared to quench the flames in any way, and the outlook is indeed gloomy for property contiguous to the railroads.

#### ON THE CEDAR.

G. Harry Shearer, of this city, who came from the Cedar river, about twelve miles from Houghton Lake, arriving home to-day, informs us that Moore, Smith & Co.'s farm was burned over, and the man and woman who superintended it were compelled to take refuge in the river to save their lives. The woods were on fire in all directions.

The *Pioneer* learns "that in some portions of the township of Tuscola considerable damage has been done, burning fences, etc., the buildings being saved with some difficulty. We have heard of two or three houses being burnt in the town of Fremont, although we have not learned the particulars. At times the fire has approached quite near the railroad track and depot at this place, but no damage has been done save the loss of a few cords of wood."

#### ALONG THE FLINT & PERE MARQUETTE RAILWAY.

North of the Saginaws, on the line of the F. & P. M. Railway, there has been much damage done to property. In addition to the particulars given in our columns heretofore we glean the following from the *Farwell Register*:

On Friday the fire got into the woods around this village, and for a time threatened to make things hot for some of our suburban neighbors. Saturday fire approached the town on the north and east, and for a time threatened to wipe out that quarter, but was finally kept back until evening, when the citizens turned out en masse, set counter fires, and finally

succeeded, after about two hours' work, to baffle the fiery elements which arose nearly as high as the tree-tops, lighting up the surroundings so that print could be read anywhere in the streets. The sight was grand and terrible. In a few hours the blaze had died out, and the scene presented was no less interesting. Smoldering heaps where the fire had last raged shed thousands of flickering lights, while those in the dry tree-tops shone like so many meteors, and we watched the sight with studied interest long into the hours of night.

On the plains north of this place the scene is described as terrific, and will long be remembered by the people of that locality. Miles in extent were swept by the fire on both sides of the Muskegon river, and large tracts of pine lumber left black and smoldering. Several lumber camps were burnt, and others saved by hard work.

But the most regretful loss was the burning of the residence of A. H. Vredenberg, which took place on Sunday. Mr. Vredenberg and folks were away on a visit, and a man who was staying in the house, thinking there was no danger, as the fire was not near, went out to one of the neighbors, and returning about two hours after found the house enveloped in flames. The whole premises were swept clean, fire having licked up everything except a span of horses, which were saved with difficulty from the burning stable. The fire swept the whole settlement, and many incidents are reported.

West and south of this place, fires raged hot, and considerable damage was done to standing timber, and settlers worked hard to save their property.

#### BALDWIN BURNED.

The village of Baldwin, Lake county, was totally destroyed on the 16th. Concerning it the *Free Press* has the following: "Saturday, while the fire was raging in the woods near the

village caught fire, and owing to the strong wind which prevailed at the time, it was impossible to hinder the fire from spreading. In less than four hours the whole village was laid in ashes.

#### ALPENA AND VICINITY.

Reports from Alpena and vicinity give particulars of extensive conflagrations. A correspondent of a Detroit paper says that on Saturday "Alpena City was entirely hemmed in by the fire, and it was by the greatest exertions that there were no more buildings destroyed. On the north and west of the city the fire came in close proximity. The engine was on duty during the afternoon, and at night the fire subsided somewhat, having swept over a large portion of the unoccupied land in the city, leaving it almost bare of trees and shrubs. The fire passed through the Catholic cemetery, doing considerable damage, destroying fences, etc. In Alpena township the fire did much damage to fences, cord wood, forests and timber, and settlers were compelled to fight fire until they were nearly exhausted. Thomas Fluatt lost his barn, farming tools, harness, etc. In the township of Long Rapids the fire spread over a much larger portion of territory. William Hawley lost two houses and two barns, together with all his household goods, farming implements, etc., leaving him destitute, and he and his family barely escaped with their lives. Some of them were badly burned. Silas Knowles lost his house, barn and goods. Don McDonald lost a large quantity of lumber which he had procured for building purposes. John W. Hall, a man who has recently taken up a farm, had burned a large lot of lumber on his grounds for a new building, and only by superhuman exertions did he save his house. A farmer named Mellen was also unfortunate enough to lose a good portion of his lumber, and he sustained considerable loss of fences, etc. It is

impossible to calculate the amount of damage that has been done, or the number of parties who have suffered, and to even estimate how large a tract the fire has laid to waste, but there are a large number who have suffered more or less, while some are left entirely homeless."

The *Saginaw Courier* of the 21st ult. makes the following report: "The timely rainfall of Monday in the section of country north of the Saginaws checked what invariably must have been the most disastrous destruction of property by fire on record. As it is, the losses are by no means inconsiderable."

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Concerning the timber law, passed recently by congress, the *Omaha Herald* says :

In the first place not one man in fifty can plow, plant and cultivate forty acres of timber for eight years, and support a family at the same time. Many will try it only to fail, which will give rise to endless litigation, and thousands of hard-earned dollars will be paid to lawyers, and years of hard labor will be lost, by men who are misled by lickspittle editors, and scheming, unprincipled office seekers. Another thing: It has the effect to withdraw a large amount of land from market, which might otherwise be taken as homesteads, and thus help to settle the country, or taken by private parties, who would pay taxes upon it. And now, while I write this, I can see three quarter sections held as timber claims, and not one of the men who hold them have the least idea of planting an acre of timber; but they can each hold a quarter one year for \$10, and then hope to sell their chance to some immigrant, for \$100 or \$200, before it would pass from their hands. This is rather a pointed argument. A few more farmers in congress would not be out of place.

#### UNIFORMITY OF INSPECTION.

*From the Boston Lumber Trade.*

We have frequently referred to the above subject, as one of great interest alike to manufacturer and dealer, and as among the most important topics of discussion for an association which shall have such a relation to the whole trade, as to give authoritative sanction to its decisions. Cases illustrative of its importance, both by the losses to manufacturer and to dealer, and by questions which constantly arise, involving controversies and even litigation, are constantly occurring. One of these has recently occurred within our own knowledge. A manufacturer in Scytheville, N. H. contracted to deliver a certain amount of strictly first-class spruce lumber, of given dimensions, for a public building in the suburbs of Boston. In making the contract, he stated that the Bangor manufacturers "could not begin to get out so good lumber," of the desired kind and dimensions as he could do. On the arrival of the lumber in Boston, the contractor of the building looked it over on the cars, and refused to touch it unless he could select from it such as might suit him. At least one half of the sticks were from logs so small that they could not be squared so as to cut out all the bark and many of them showed a very considerable round surface of bark in place of square corners. The consequence was that the contractor accepted less than one third of the whole lot. The dealer, who made the contract on the one hand with the manufacturer, and on the other with the committee in charge of the building, classed the remaining two thirds or more as refuse, and the manufacturers must accept pay for it as of that quality, or have it shipped back to his mill. The result of the whole transaction has been disappointment and loss to all concerned. The manufacturer, if he considered, and it is fair to assume that he did,



that he was filling the contract according to its terms, being misled by the system of inspection prevailing in his locality, will be greatly disappointed in the net proceeds of the transaction. The dealer, who was held to furnish the town with the whole amount of lumber at the stipulated price, which would have given him a profit if the whole lot had been accepted, as to two thirds of it, was thrown on the market to obtain immediately enough to supply the deficiency, with the inevitable result of increased price and considerable delay. The operations of the contractor and the building committee were also embarrassed and delayed.

All this embarrassment and loss would have been obviated by an authoritative and uniform system of inspection, recognized by and governing the manufacturer, dealer and contractor. The inspection having been made and the lumber marked by a duly qualified inspector, there should be no appeal or question as between the parties to a contract. The inspector should be thoroughly competent and then be held to the most careful and impartial discharge of his duty, and manifest failure in either direction, unless in very exceptional cases, should be the reason of removal from office. As we have before suggested, there is hardly a matter connected with the lumber trade in which there is so little of uniformity, different systems prevailing and different rules being recognized at the locations of the manufacture and at those of sale. These systems have grown up with the trade, and, even so far as they have been made the subject of legal enactments, have been but the expression of the practice of the trade in various localities. To harmonize these systems and to secure by legal authority the uniformity, which is conceded to be so desirable, it is only necessary that manufacturers and dealers should come to an understanding and determine definitely upon a sys-

tem of terms and of classification. Should the National association effect nothing else, the result, valuable alike to manufacturers and to dealers, would amply repay the effort to secure its organization and to the members the expense and trouble of their attendance.

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#### TERRIBLE ACCIDENT ON THE UPPER WOLF.

##### Four Men Drowned and Another Has His Arm Broken.

About 12 o'clock Thursday night, the men in charge of what is known as the Beecher dam, on the Wolf river some thirty miles north of this city, were awakened by the roaring of the waters, and soon discovered that a big flood from the Post Lake dam was upon them. They immediately went out to hoist the gates. It was a very dangerous undertaking, as the dam at that time was trembling to its very foundation from the force of the flood. Some of the men were disposed not to venture upon the dam, fearing the consequences; but others insisted upon going, and leading the way, all went to the number of nine. They had succeeded in partially raising the gates at one of the waist-ways, when the whole bulk-head gave way, carrying the men and a large amount of timber and logs with it. Four of the men were drowned, and another one had an arm crushed; the rest very miraculously escaped with their lives. The names of the drowned men are T. Parks, brother of John H. Parks, the foreman of the drive, Jerry Casey of Freemont, Nicholas Nutz of Shiogton, and Charles Ma-he-ka-wo, an Indian. The man injured was an Indian, whose name we did not learn. At this writing, but one of the bodies had been recovered, that of Casey, which was brought to the city yesterday for burial.—*Shawano County Journal* 16th ult.

THE MARKETS.

MILWAUKEE, June 3, 1874.

Great activity has characterized the Milwaukee lumber market during the latter half of May, which has had the effect of stiffening prices on cargoes of joist and scantling and Manistee piece stuff. Stock of this description, which declined to \$9 in the early part of May, is now back to \$9.50, and firm at the latter figure. The market for strip and board cargoes has shown no variation and is quotable steady and firm at \$10@11 for common, \$12@14 for medium and \$15@16 for choice, or best pieces of Muskegon out of select logs. The activity of Milwaukee yards is ascribed to the large country demand which is now seeking this market in consequence of the recent extension of Milwaukee's railway system and the improvement of shipping facilities. Railroad managers are beginning to show some adequate appreciation of the possible magnitude of this trade at this point, and a disposition to accommodate it, which, strange to say, they have never shown before. There is still a loud call for more railroad dockage and switching facilities, notwithstanding recent improvements. Last Friday, for instance, not a car was to be had, the want, so far as we can ascertain, being due to no lack of cars but to the lack of sufficient switching and siding facilities to enable dealers to keep up with their orders. Much of the stock of this market is now shipped over the Western Union road to Freeport, Ill., and thence by the Illinois Central both southeast and west.

A large order business also is being done over the Prairie du Chien division of the Milwaukee & St. Paul railway. We quote Milwaukee yard sales at this date 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.....	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	
Wide select com.....	20	00	
1st and 2d clear 1½, 1¾ 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.....			18 00
Square pickets.....	13	00	
Flat pickets.....			12 00
Lath <sup>3/4</sup> M pieces.....	2	50	
A shingles, <sup>3/4</sup> M.....	3	25	3 50
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

LAKE FREIGHTS

Are weak and ruling low, and an unusually large number of vessels offering. Leading dealers here complain that they cannot get half the cars they want from the railroad companies, and say they could send out 50 per cent. more lumber if the supply of cars was sufficient. Following is the table of lake freights ruling here to-day, (June 3d.):

Oconto.....	\$1 75
Muskegon.....	1 59
Manistee.....	1 50
Ludington.....	1 50
White Lake.....	1 50
Pentwater.....	1 50
Grand Haven.....	1 50
Saugatuck.....	1 50
Ford River.....	1 37½
Menominee.....	1 50

Late advices from Oshkosh, Wis., state that the lumber market of Oshkosh is not very brisk, but still it is as good as it was this time last year. About 80 car loads are shipped per day; prices the same as last year. Logs are commanding high prices,

ranging from \$8 to \$15 per thousand.

The Embarrass river drive, consisting of fifteen million feet, is now being rafted at the boom.

The Shioc drive will be at the boom in about three weeks. This consists of from fifteen to twenty-five million feet.

The Red river drive has been hung up on account of low water, although it is supposed that the June freshets will bring them out.

Our mills are running short of logs and if the new crop is not rushed along many mills will have to shut down. There is considerable dry lumber on the market, although the assortment is badly broken. Sample & McDonald have made arrangements with Oshkosh parties for the sale of all their upper grades of lumber for five years. The price to be paid is said to range from 20 to 25, and is a big trade. Their mill is on the Wisconsin Central railroad.

Advices from Eau Claire, Wis., state that the drive was hung up at Jim's falls, about 25 miles north of here, on yesterday, and the crew, 250 men, discharged. With the exception of a few small streams, the logs have all been driven into the main river. The result may be summed up as follows: On the Menomonee, 60 per cent. have reached the booms; on the Eau Claire, 65 per cent.; on the Chippewa, 55 per cent., with 30 per cent. in the jams extending from Jim's falls and the big jam at Eagle rapids. In the latter there are 50,000,000 feet. The season has been very dry thus far, and driving has been up-hill work. The logs that

are back are in good condition for a June rise, if it comes, and will give our manufacturers a supply for the season. The season has been very favorable for operations.

At Beef slough the water is not too high. About 1,500,000 feet of logs are being racked daily.

Sales of logs are dull and prices low.

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#### Chicago, Illinois.

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For general remarks upon the Chicago lumber markets and the features of the past month, the reader is referred to our large volume of correspondence elsewhere. A leading Chicago dealer, addressing the WISCONSIN LUMBERMAN on personal matters makes a remark which strikes us as so earnest, pertinent and sound that we cannot refrain from reproducing it here. He says:

I wish I could convince lumbermen that the only earthly chance of making any money for this and next season will be to reduce sawing and retain one quarter of their logs for next season—if so, I would willingly start a paper and run it gratis. As one of your correspondents said in a recent issue, *three quarters* of the log crop properly marketed will produce more gross or net return than *all as now being conducted*.

The *Chicago Inter Ocean* of the 2d inst. says:

The favorable winds to-day brought in the largest fleet of the season, and there was about eighty cargoes on sale. The attendance of buyers was fair, but they evidently thought the present time a favorable opportunity for obtaining lower prices, and held back, demanding concessions. Sellers were anxious to realize, and were shading prices, a fair degree of ac-

tivity being shown. Dealers, as a general rule, were not reporting their sales; also a general rule on a declining market, and it was difficult to obtain correct quotations. Joist and scantling sold at \$9, with rumored sales at 9.25@9.50. Strips and boards sold at \$9@16. Shingles, 2.60@3. Lath \$2. The market closed quiet, with a liberal number of cargoes unsold.

We quote the market steady as follows:

YARD PRICES.	
First clear.....	\$50 00@55 00
Second clear, 1 to 2 in.....	47 00@50 00
Third clear, 1 in.....	38 00@40 00
Third clear, thick.....	43 00@45 00
Clear flooring, 1st and 2d together, rough.....	35 00@40 00
Clear siding, 1st and 2d together.....	21 50@22 00
First common siding.....	19 00@20 00
Second common siding.....	14 00@16 00
Flooring, first common, dressed.....	33 00@36 00
Flooring, second common, dressed.....	26 00@28 00
Flooring, third common, dressed.....	18 00@20 00
Wagon-box boards, 14 in. and upward, select.....	38 00@40 00
B wagon-box boards.....	28 00@30 00
Stock boards, A.....	36 00@38 00
Stock boards, B.....	23 00@28 00
Stock boards, C.....	14 00@16 00
Common boards, outside for dry.....	11 50@13 00
Joist, scantling, fencing, timber, 16 feet and under, outside price for dry.....	11 50@13 00
Joist and scantling, 18 to 24 ft.....	14 00@20 00
Pickets, square.....	13 00@15 00
Pickets, flat.....	12 00
Cedar posts, sp it.....	14 00
Cedar posts, round, 5@8 inches.....	17 00@35 00
LATH.....	2 25
SHINGLES—Sawed No 1.....	1 50@ 2 50
A or Star.....	3 25@ 3 50
On track (A).....	2 87½@3 00

St. Louis, Missouri.

We quote from the weekly circular of Messrs. Methudy & Meyer, under date of May 21st, as follows:

White pine in raft dull, but quotations unchanged. A lot of 1,000,000 ft. mill-run Minneapolis sold afloat at \$13, and 400,000 ft. common Wisconsin afloat at \$14 50. A sale of 200,000 lath on raft was reported at \$2 50. Shingles lower at \$3 70 del for best grades. Trade at the yards dull, and prices favorable to buyers. We have no change to note in depot and levee lumber—fair demand for best descriptions—inferior and common not wanted.

We quote the range for depot and levee lots: Yellow pine flooring—3d rate at \$14@16; green 2d and clear do \$24@25; dry do \$26 50@27; yellow pine mill-run dimension at 13@14; poplar at \$16@18 for mill-run boards and strips—2d and clear do do at \$20@23, 3d rate \$13@14; black walnut \$20@25 for inferior, \$30@35 for common to fair, \$38@40 for good, and \$42 50@45 for choice; oak at \$18@28; ash at \$20@27; hickory at 30@35; sawed cedar timber at \$30@32 50—hewn \$25@27; cedar posts at \$30; walnut table legs sell at 16@22c ♀ set. Special orders filled at higher rates.

Sales reported at the depot and on the levee: 15 cars yellow pine flooring at \$24 and \$14, 4 do and strips at \$26 and \$15, 4 do flooring at \$26 50 and \$16, 3 do at \$27 and \$15, 11 do \$27 and \$16, 2 cars poplar chair plank at \$20, 14,000 ft. ash at \$22, 1 car cherry boards at \$40, 9 hewn cedar at \$25@27, 1 do (order) at \$30, 1 sawed do (do) at \$34 50, 1 do (do) at \$35, 1 walnut at \$35, 3 do boards at \$42 50.

The *St. Louis Times*, of June 2d, quotes prices as follows:

Little doing in raft lumber. Market dull. We quote afloat as follows: Chippewa and Minneapolis at \$13@14, and fair to choice Wisconsin at \$16@22—inferior down to \$13. Lath unchanged at \$2 50 on raft and \$2 75 del. Shingles steady at \$3 70 del. Business at the yards quiet at unchanged rates. For depot and levee lumber the demand has been light, and prices are without change. Dry of all descriptions in fair demand; but green is slow sale, and generally avoided by buyers—green yellow pine flooring especially dull, owing to the warm weather and its liability to blue.

SAGINAW, MICHIGAN.

The *Saginaw Courier* of May 28, says:



There has been no notable change in the condition of lumbering affairs in the Saginaws since our last report. There have been few buyers from abroad during the past week, and few transactions are noted. Those that are made are invariably reported "p. t.," which is rather unsatisfactory to the dealer as well as to the reporter, and has a tendency to give the impression that sales are at figures lower than sellers care to have made public. From information gathered from the best sources we are enabled to state that prices are generally maintained at \$6, \$12 and \$35, although cash buyers in some instances have shaded these figures on lower grades. What has been said of other points is equally applicable here, that the existing feeling that the general standard of all prices is to be materially lower in the future, induces buyers to exercise caution in all transactions made. Time has been with a similar state of the market together with depleted stocks in all eastern markets, prices would have went up with a bound. Now money prefers to lay idle rather than assume any risks till the season has advanced far enough to indicate the real basis of prices, and then too it is presumed the lull in the business interests of the country which affects all branches of trade will have passed away, and an era of activity be inaugurated.

It quotes prices as follows:

ROUGH LUMBER, CAR LOTS.	
Three upper qualities.....	\$38 00
Select boards.....	25 00
Common stock 12 inch.....	18 00
Fencing strips.....	13 00
No. 1 flooring strips.....	25 00
No. 2 flooring strips.....	20 00
Common boards.....	10 00
Coarse common.....	8 00
Timber, joist and scantling 12 to 18 ft.....	11 00
do do do 20 ft.....	13 00
do do do 22 to 24 ft.....	15 00
Lath.....	2 00

#### ROUGH AND DRESSED LUMBER AT YARDS.

ROUGH LUMBER.	
Three upper qualities.....	\$34 00
Common boards.....	12 00
Common 12 inch stock boards.....	12 00
Fencing strips.....	10 00
Cull boards.....	6 00

Scantling, joist and timber, 12 to 18 feet.....	10 00
do do do 18 to 22 feet.....	12 00
do do do 22 to 26 feet.....	15 00
Lath.....	2 00

#### DRESSED LUMBER.

Siding No. 1 clear.....	21 00
" No. 2.....	18 00
" No. 3.....	14 00
Flooring No. 1, 6 in.....	26 00
" No. 2, select 6 inch.....	20 00
Ceiling No. 1, clear.....	40 00
" No. 2.....	30 00
" No. 3.....	20 00
Clear boards, s 1 side, 7 to 20 in.....	40 00
No. 2 " ".....	30 00
No. 3 boards, select 7 to 20 in, s one side.....	25 00
Common boards, " ".....	17 00

#### BAY CITY, MICHIGAN.

The *Lumberman's Gazette* which now appears in the form of a handsome weekly, makes the following report dated May 29th, concerning the trade of the Saginaw Valley:

The trade in lumber has improved slightly since our last report. A prominent lumberman of the Saginaw Valley remarked during the week that the lumber trade had improved fifty per cent since the middle of the month. But another manufacturer of the valley who has had considerable experience said, "I don't think I ever knew it any duller at this season of the year." Now the facts are that the first man alluded to had made recent sales at good prices and got the cash, while the other has lumber to sell and is short of ready money. The first man was cheerful and buoyant and exceedingly hopeful, while the latter was depressed and discouraged for want of customers to purchase his lumber. These men are illustrations of the whole body of manufacturers in eastern Michigan and, to a certain extent, in the whole country. To deduce from them the true state of things is somewhat difficult, yet not impossible.

The recent sales made and the demand which is inevitable henceforth for the remainder of the season, point to a condition of the trade which we have intimated has already shown itself in the manufacturing districts.

Buyers are quietly getting their stocks secured and shipped while freights are low. The prices for good lumber is firm at \$6, \$12 and \$35, while some sales are made at \$6.50, \$13 and \$35. The poorer grades are not in good demand and can be had at low prices.

Oswego, New York.

Oswego, N. Y., May 26, 1874.

Reports for the past month show an active trade and improving market.

Sales for the past week amount to 4,116,061 feet, against 2,402,037 feet for the preceding week.

Receipts by lake last week were 10,183,806 feet, against 7,620,188 feet for the preceding week. Sales in this market this season to date are 1,714,024 feet. The following are the

CLOSING PRICES FOR MAY.  
MICHIGAN PINE.

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

CANADA PINE.

Three uppers.....	\$42@45
Pickings.....	25 32
Common.....	18 22
Inch siding, mill run.....	22 32
"                                  selected.....	35 40
"                                  "                                  box.....	12 15
1½ inch siding, mill run.....	22 35
1½ "                                  selected.....	38 40
1½ "                                  "                                  box.....	14 16
1½ "                                  mill run.....	24 32
1½ "                                  selected.....	35 42
1½ "                                  "                                  box.....	14 16
2 "                                  mill run.....	24 39
2 "                                  selected.....	35 42
2 "                                  "                                  box.....	14 16
1x10 stocks, 13 ft, culled.....	22 26
1x10 stocks, 13 ft, culls.....	15 16
1x10 stocks, 16 ft, culled.....	23 26
1x10 stocks, 16 ft, culls.....	15 17
1x12 stocks, 13 ft, culled.....	22 26
1x12 stocks, 13 ft, culls.....	15 16
1x12 stocks, 16 ft, culled.....	23 26
1x12 stocks, 16 ft, culls.....	15 17
1x 4 stocks, culled.....	23 28
1x16 stocks, culled.....	23 28
1½ x10 plank, culled.....	22 27
1½ x10 plank, culls.....	15 17
Inch strips, culled.....	22 30
1½ inch strips, culled.....	22 39
1x1½ inch strips, culls.....	12 14
Ash, Canada finishing, 1st quality.....	30 35
"                                  common.....	18 20
Black ash.....	18 23
Black walnut.....	85 100
Hemlock.....	12 14
Shingles, pine, 1st quality, 18 inch.....	5 00 5 25
"                                  1st                                  16 inch.....	4 50 4 60
"                                  2d                                  18 inch.....	3 35 4 00
"                                  cedar 1st                                  18 inch.....	4 50 4 60
"                                  2d                                  18 inch.....	2 20 2 50

Mich. pine shingles, best quality 18 inch.....	5 75
Pickets, pine, 1st quality, flat.....	14 15
"                                  2d                                  ".....	10 11
"                                  1st                                  square.....	12 18
"                                  2d                                  ".....	10 11
Lath.....	2 00 2 15

New York City.

The New York correspondent of the *Boston Lumber Trade* on the 21st ult., reported as follows:

Since our last report we hear of no material alteration in the market for spruce timber. Transactions are rather narrow for this season of the year, and the prospect is not regarded as favorable for future business. Stocks among dealers are light, yet many of them will not venture to replenish at current rates under present circumstances.

We note sale of an ordinary cargo of random at \$19, and quote the market from \$18 to \$22, dependent upon dimensions and desirability.

Southern Pine—The demand has been very light the present season and the market is quiet at the moment. The prices for cargoes from southern points run all the way from \$28 to \$35; ordinary timber and plank \$28. Flooring, \$30, by the cargo; some sell at from \$29 to \$32. Siding boards about the same price as timber. The demand for dock and railway purposes has been comparatively light for some time past. We hear of sales having been made of about 1,000,000 feet for railway construction.

The dullness of general trade and the high price of labor, exerting a depressing influence upon the real estate market and manufactures which draw upon the lumber interest, spoil business.

White Pine—There is every indication of a short supply; but, in view of the moderate demand, prices will not be materially affected, though, it is expected, great firmness will be imparted to them; prices of Michigan pine show no alteration from those of last report.

Hemlock—Is quoted as follows: 1x10, 13 feet boards, 16 to 17c each, 2x3, 2½x4, and 3x4 13 feet joists, \$15 to \$16 per M feet.

Lath—Arrivals more liberal since our last. The demand is moderate and they are quoted at \$2.

Pickets—We quote ¾, 4 feet \$9; 1 inch, 4 feet \$11.50 to \$12.50. The demand is stated to have exceeded the receipts.

Shingles—No. 1 Kennebec pine, in

moderate request and quoted \$4.50 to \$5. For No. 2 there is no inquiry.

Most of the yards report a light business doing at the present.

#### San Francisco, California.

The latest received issue of the *San Francisco Journal of Commerce* says:

Trade is improving very much. The country trade is very good. There is much talk of advancing Puget Sound lumber. The redwood manufacturers have not got the matter of price settled yet, but the retail price remains unchanged. Cargo rates are fixed by each manufacturer about as suits him. There is, however, a probability that they will settle matters in a month or two. The manufacturers claim to be really not making anything now, but the retailers are doing well. The impetus given to the building business has caused the importation from coast ports to increase again, and the quantity arriving last month was very large.

Imports from Pacific coast ports, from the 20th of March to the 21st of April, include 21,909,000 feet of lumber, 1,908,000 shingles, 2,427,000 laths, 15,039 piles, 117,800 posts, 1,280 cords of wood, 2,300 railroad ties, 100 pieces, 1,835 bundles of staves and 1,000 staves, 236 cords of stove bolts, 9 cords of match wood, 120 cords and 91 bundles of hoop poles, 30,000 pickets and 71,000 wood slabs.

From Mexico we have received 942 cedar logs and 228 logs of Prima Vera.

Exports for the same period included 1,005,000 feet of lumber, and 466,000 shingles and 40 bundles of shingles.

#### Canada.

A correspondent writes from Montreal:

The only sales of any account at this point are to South American ports, and the prospect at present for that trade is not encouraging. There is a good deal of lumber being pushed into this market from manufacturing points, which must have an injurious effect on the trade. The high prices and good demand for the lower grades of pine deals for the English market may bring about a healthier state of things than at present exists; then, the short out of logs in the west, with not a very favorable prospect for driving, which, if realized, must put the price on common lumber up; this

would be desirable, as present rates are not remunerative to the manufacturer.

The *Ottawa Citizen* reports the shipments of lumber at the Chaudiere as very active, views from the eastern states, says the *Citizen*, "gives brighter prospects for the season's trade."

#### INCOMBUSTIBLE WOOD FOR SHIPS AND HOUSES

Some very interesting and important experiments were recently made in England in the government dock-yard at Devonport, to test the recent inventions calculated to render wood incombustible. Perhaps the most convincing of the first series of experiments was that in which a large heap of the prepared timber, about two feet high and seven or eight feet in circumference, placed on large iron sheets, was saturated with paraffin and set on fire. As soon as the paraffin was consumed, the fire spontaneously went out. The timber was then examined and found to be scarcely injured; whereas a similar pile of ordinary wood, treated in the same manner, was completely reduced to ashes. The pieces of wood were of various sizes, the majority being about eighteen inches long by two and three inches. Not only does the process render timber uninflamable, but has the not less important property of making the softer kinds of timber, such as white and yellow pine, throughout both in appearance and hardness like teak or oak. When the prepared timber is examined with a microscope it is plainly seen that the fibres and intercellular spaces and the minute granules therein contained are coated with the mineral. In timber affected by dry rot, which is rendered much harder than thoroughly seasoned oak, the sporules and mycellum threads of the polypocus destructor and other fungi which produce the dry rot, are seen encased in the mineral, which is exceedingly hard, and contains neither water, nitrogen, nor phosphates (which enter so largely into the chemical constitution of these fungi); their development therefore is rendered absolutely impossible. This adds immensely to the value of the discovery, as it can be applied by a simple method to ships already built, so as to render those containing incipient dry rot almost as good new, and absolutely arresting any further damage from these destructive fungi. The inventor is a clergyman, the Rev. Dr. Jones, principal of Harwood college, Tavistock, and the process is very inexpensive.

# JOHN B. BOTTINEAU, REAL ESTATE,

Insurance and Loan Agent.

OFFICE, Ground Floor, East Entrance, CITY HALL,  
MINNEAPOLIS, MINNESOTA.

Special attention given to paying taxes, procuring and perfecting titles to lands entered by HALF-BREED SCRIP. Soldiers' 80-Acre Claim and Warrants bought and sold. Personal application, under Chippewa Treaty, Feb. 22, 1855, to enter Land always on hand, by which I can enter Pine Lands in Minnesota at \$2.50 per acre.

Persons having numbers, or expecting such, will do well to give us a call or correspond. Letters will receive prompt attention.

Also owners of Pine or other Land, who wish to dispose of the same, will find I am in a position to make speedy sales.

## Choice Timber Land.

In Townships 158 to 160 inclusive, Range 50, situated between the St. Vincent Extension of the St. Paul and Pacific Railroad and the Red River of the North, on which latter there is constant traffic, and where the surrounding country is somewhat deficient in timber, I have 10,000 acres of land, first-class black loam and alluvial soil, surpassing any tract in the State for the production of the first prizes. The above tract is heavily timbered with White and Burr Oak, averaging at least 4,000 feet select timber to the acre on which the government in adjoining tracts collects stumpage at \$3.00 per thousand feet. The lumber is not only in demand for local consumption, but finds a ready market in Pembina and the Province of Manitoba, where also timber is scarce, and to which there is water carriage.

Extra inducements to capitalists will be offered in the above lands for joint operations.

I have also for sale 1,120 acres in township 130, range 34 and 35. First quality Farming Lands, well timbered and prairie and well watered; near railroad. \$5.00 per acre.

## Choice Pine Lands.

6,331 acres, on which stand 27,710,000 feet of choice lumber, all within four miles of landing, in tract as follows:

100 acres in sec. 24.....	T. 182, R. 30	240 acres in sec. 10, 14, 21.....	T. 132, R. 31
400 acres in sec. 21, 22, 30.....	T. 187, R. 33	360 acres in sec. 14, 18, 24.....	T. 182, R. 31
440 acres in sec. 1, 12.....	T. 187, R. 34	240 acres in sec. 30.....	T. 40, R. 25
160 acres in sec. 10, 22, 24, 34.....	T. 187, R. 33	330 acres in sec. 3, 22, 24, 26.....	T. 40, R. 29
877 acres in sec. 6, 11, 18, 14, 24, 25, 33, 34.....	T. 188, R. 25	320 acres in sec. 6, 10, 28, 34.....	T. 51, R. 26
160 acres in sec. 8.....	T. 187, R. 33	360 acres in sec. 10, 14, 26, 34.....	T. 51, R. 27
240 acres in sec. 4, 18.....	T. 131, R. 30	320 acres in sec. 14, 22, 26, 30, 34.....	T. 53, R. 26
480 acres in sec. 10, 14, 24.....	T. 131, R. 31	160 acres in Wisconsin, sec. 30, T. 44, R. 2 W., near	
200 acres in sec. 18.....	T. 132, R. 30	crossing of Wisconsin C. R. R.	

Prices range from \$4.50 to \$12.50 per acre.

1,000 acres estimated to cut 5,000,000 feet of White Pine, in townships 129 and 130, range 32. Will be sold cheap to close a partnership.

Have also several hundred acres that have been partly cut, some years ago, which at the prices asked would be a good paying investment.

And several thousand acres of choice Pine Lands tributary to Duluth markets.

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MILWAUKEE & ST. PAUL  
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BETWEEN  
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ST. PAUL,  
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AND THE ONLY RAILWAY LINE  
Traversing the Valley of the Upper  
Mississippi River,  
AND  
ALONG the SHORE of LAKE PEPIN.

This Route passes through more Summer  
Resorts and Business Centers than  
any other Northwestern line.

THROUGH PALACE COACHES  
AND  
SLEEPING CARS

On all Through Trains, without change.

Connecting in Minneapolis and St. Paul with  
the several lines centering at those points.

St. Paul Depot, corner of Jackson and Levee. City  
Office, corner Third and Jackson Streets.

Connecting in Chicago with all routes for the  
East, South and Southwest.

Chicago Depot, corner Canal and West Madison  
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Connecting in Milwaukee with Western Union  
and Wisconsin Central and other Divisions. Also  
other Divisions of this Road.

A. V. H. CARPENTER,  
Gen'l Pass. and Ticket Agent.

WISCONSIN CENTRAL  
RAILROAD

OPERATED BY PHILLIPS AND COLBY CONSTRUCTION CO.

New Short Through Line

BETWEEN

Chicago, Milwaukee,  
DE PERE, GREEN BAY,  
AND  
ALL POINTS in the GREAT NORTHWEST.

The Direct Route to the  
IMMENSE LUMBER DISTRICT  
Of Central Wisconsin.

THE ONLY CONTINUOUS LINE BETWEEN  
MILWAUKEE, MENASHA,  
WEYAUWEGA, WAUPACA,  
AMHERST and STEVENS POINT

Between Stevens Point and end of track a train  
runs each way daily, (Sunday excepted.)

NO CHANGE OF CARS  
BETWEEN  
Milwaukee and Green Bay

AND  
Milwaukee and Stevens Pt.

COMMENCING MAY 1st, 1874, all trains of this Road  
will arrive at and depart from

Union Depot, Milwaukee,  
REED ST., SOUTH SIDE.

SLEEPING CARS  
ATTACHED TO ALL NIGHT TRAINS.

Passengers for FOND DU LAC, SHEBOYGAN and  
all points on Sheboygan and Fond du Lac Railroad,  
will find this the QUICKEST and MOST COMFORT-  
ABLE ROUTE.

CONNECTIONS :

At Plymouth, with Sheboygan and Fond du Lac  
Railroad.

At Green Bay, (Fort Howard), with Chicago and  
Northwestern, and Green Bay and Minnesota Rail-  
ways.

At Amherst Junction, with Green Bay and  
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Ask for Tickets via Wisconsin Central Rail-  
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The Cheapest and 100 Miles the Shortest Route o

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And All Points in the East.

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Appleton, Menasha, Escanaba, Green  
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And ALL POINTS SOUTH and EAST, Should Buy their Tickets via

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Close Connections made with all Railroads running EAST or SOUTH from Chicago.

Among the Inducements offered by this Route, are all

### THE MODERN IMPROVEMENTS.

Rock and Gravel Ballasted Track; Steel Rail, Rock and Iron Bridges, Pullman Parlor Cars and Coaches; Parlor and Drawing room Day Coaches; Smoking and Lounging Cars; Westinghouse Safety Air Brakes; Miller's Patent Safety Coupling and Platforms; Close Connections at Junction Point Less Transfers than any other Route; Union Depots, No Car Ferry Transfers; Speed, Safety, and absolute comfort.

From 2 to 10 Fast Express Trains run each way Daily over the various lines of this road, thus securing to the Traveler selecting this route sure and certain connections in any direction he may wish to go. See that your Tickets READ VIA THIS ROUTE, and TAKE NONE OTHER.

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On and after Monday, April 6th, 1874, the Steamers of thisline will leave MILWAUKEE from their dock, 68 West Water Street, daily at 9 P. M. (Saturday excepted) making direct connections at GRAND HAVEN the following morning with Trains for

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PULLMAN'S PALACE SLEEPING CAR ON NIGHT TRAINS  
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Through Tickets for sale at all principal Ticket offices in the Northwest. Also at Company's Office 385 Broadway, Milwaukee, and on board steamers.

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 FORT HOWARD, WISCONSIN.

## Green Bay &amp; Minnesota Railway

## ELEVENTH VOLUME!

## Passenger Time Table.

GOING WEST.	STATIONS.	GOING EAST.
7:30 A. M. Dep.	Green Bay	8:45 P. M. Arrive
7:47	Duck Creek*	8:27
8:04	Oneida*	8:10
8:34	Seymour	7:40
8:57	Black Creek	7:17
9:20	Shiocton	6:54
9:50	New London	6:24
10:10	Foyalton	6:04
10:23	Manawa	5:51
10:40	Ogdensburg	5:34
11:00	Scandinavia	5:14
11:30 } † Arrive.	Amherst	4:44 } † Depart.
11:50 } Depart.	Plover	2:24 } Arrive.
12:30 P. M.	Grand Rapids	3:44
1:17	Dexterville	2:57
2:07	Scranton	2:07
2:34	City Point*	1:40
2:45	Hatfield*	1:29
3:10	Black River	1:04
3:58		12:17
4:28 } † Arrive.	Merrillan	11:47 } † Depart.
4:48 } Depart.	Alma Center	11:27 } Arrive.
5:00	Hixton	11:14
5:19	Taylor	10:54
5:41	Blair	10:31
6:00	Whitehall	10:11
6:22	Arcadia	9:48
7:05	Dodge*	9:00
8:11	Marshland	8:00
8:39	Bluff Siding*	7:35
8:45	Winona	7:20
9:05		7:00

\* Trains stop only on signal. † Trains will stop for meals. Trains do not run on Sundays. Black Figures denote the stations for meeting and passing trains.

## CONNECTIONS.

At Green Bay, with C. & N. W. Railway and Wisconsin Central Railway for Chicago, Milwaukee, Fond du Lac, Oshkosh, Neenah, Menasha, Appleton, and all points in Lake Superior; and in the season of Navigation, with Union Steamboats Co's Line First-class Propellers between Green Bay, Buffalo, Detroit and Cleveland, with Connections at Buffalo for New York, Boston, and all Eastern points.

At Amherst, with Wisconsin Central Railway for Stevens Point, Waupaca, Menasha and intermediate points.

At Grand Rapids, with Wisconsin Valley Railroad. At Merrillan, with West Wisconsin Railway for Hudson, Stillwater, St. Paul, Minneapolis, Duluth and intermediate points.

At Marshland Junction, with La Crosse, Trempealeau & Prescott Railway for La Crosse.

At Winona, with Winona & St. Peter Railway for all points in Western and South-Western Minnesota, and with M. & St. Paul, Minneapolis, La Crosse and intermediate points.

S. J. KENRICK,  
Assistant Superintendent.

## METHUDY &amp; MEYER.

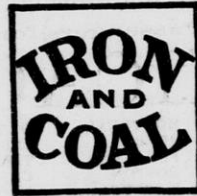
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1864

1874

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This Mill adjoins the own plan of the city of Stevens Point, and within one and one-half miles of the city. Has one large double Rotary, capable of cutting fifty thousand ft. per day of eleven hours, with Gang Edger, Cutting-off Saws, etc. This Mill is new, with the latest improvements; was run only last summer. Also one Stock Gang, one Slabbing Gang, and Shingle, Lath and Picket Mill.

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Stevens Point, Wis., March 1, 1874.

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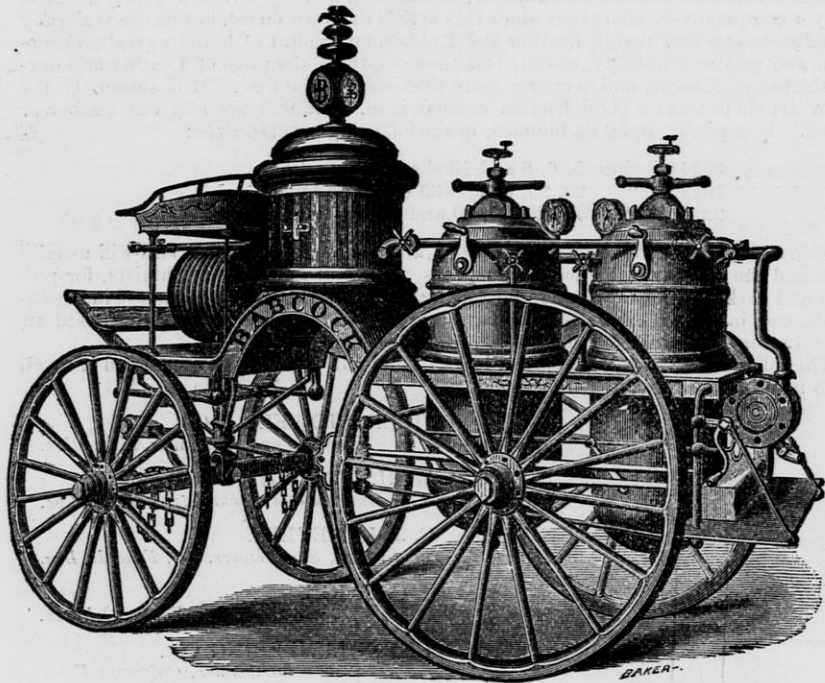
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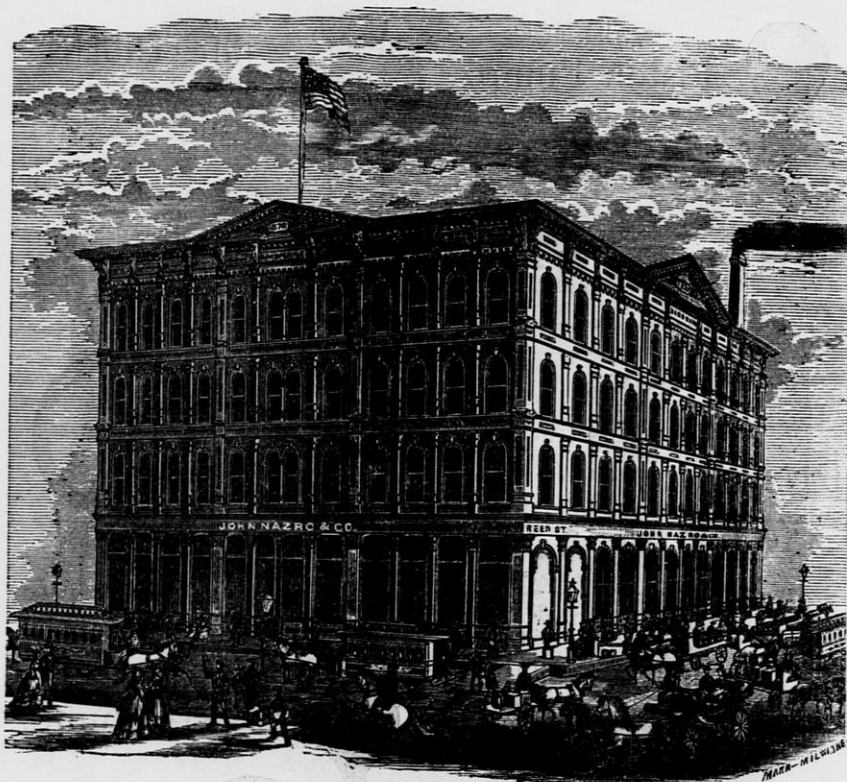
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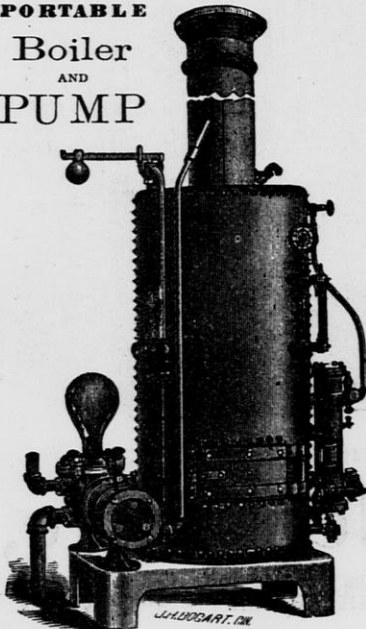
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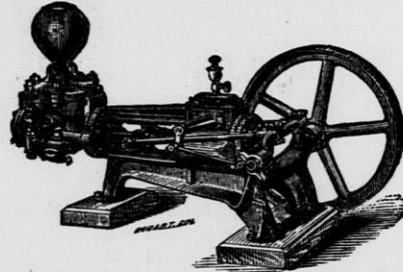
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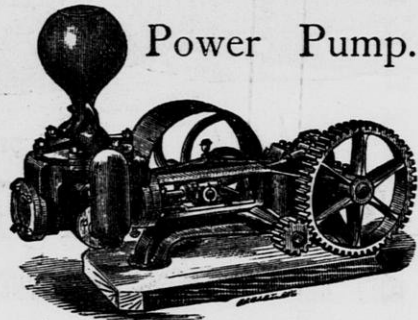


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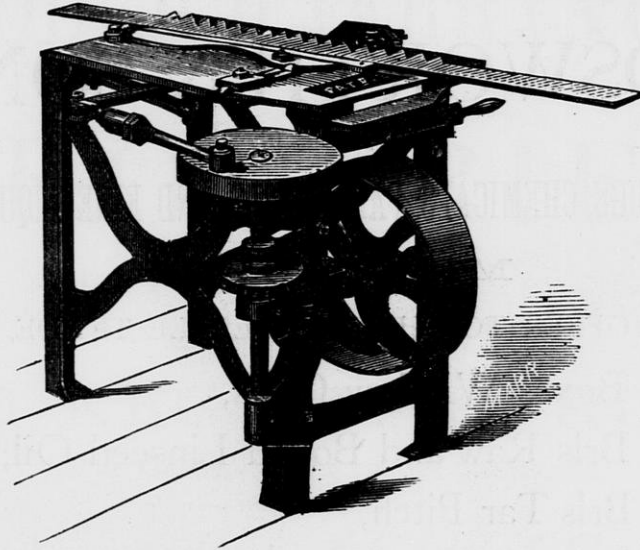
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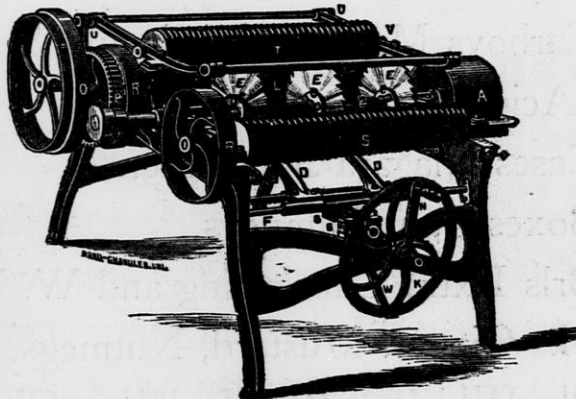


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# LUMBERMEN'S REGISTER.

The Lumbermen's Register is a special feature of THE WISCONSIN LUMBERMAN. We have devoted much time and labor in obtaining and classifying the names of the lumbering firms of Wisconsin, Michigan, Minnesota, Iowa, Nebraska, Missouri, Kansas and Chicago. The Register may yet be incomplete, but it is as perfect as we have been able to compile it up to the present date. We ask, now, that lumbermen send us any corrections or additions that will assist us in making the Register absolutely perfect, and that they will send us notice of new firms formed or old ones dissolved. We want the name of every reliable firm. Assist us in obtaining them. In our classification it will be noticed that in Missouri, Kansas and Nebraska, the term "saw mill" is used in many instances; the term refers to the local hard-wood mills. We have classed the manufacturers as manufacturers and dealers, because it is generally understood that saw-mill proprietors are at least wholesale dealers.

## GENERAL CLASSIFICATION.

m and d.....	Manufacturers.
d.....	Wholesale and Retail Dealers.
s m.....	Shingle Manufacturers.
p m.....	Planing Mills.
Sash, doors, &c.,.....	Manufacturers of Sash, Doors, &c.
Saw mill.....	Hardwood Mills.
Staves.....	Stave Manufacturers.
Logger.....	Jobber or logger who sells his logs or has them sawed by custom sawing.

Our Register is more incomplete in reference to loggers than to any other class of lumbermen. That department will be perfected as rapidly as we can obtain the names.

## WISCONSIN.

Wpham Chas M & Bro m and d.....	Angelica	Bailey D R.....	Baldwin
McCartney D m and d.....		Ham Henry sash, doors etc.....	
Oleson & Co m and d.....		Woodford & Davis m and d.....	Barton
Clinton McLaren & Co m and d.....		Townsend & Co, d Spring c Second.....	Beaver Dam
Hall A & Co m and d.....	Ahnapee	Gratiot E H d.....	Belmont
Brammer Henry & Co m and d.....		Gray James p m.....	Beloit
Young D m and d.....		Weed J H & Co d.....	
Sawyer P m and d.....	Algoma	Peck S W d.....	
Reynolds & Tibbetts m and d.....	Appleton	Talbot H G d.....	Berlin
Lederer B W sash doors etc.....		Cohn L S m and d.....	
Spaulding G W & Co staves.....		Diamond & Co m and d.....	Big Lester Bay
Whorton Bros m and d.....		Bates Geo d.....	Black Earth
Rose & Heath.....		Ward G S & Bro d.....	
Dorr & Steele m and d.....		Huriburt W D m and d.....	Black Brook
Yorker S J d.....		Price W T m and d.....	Black River Falls
Goodrich J & Co logger.....	Augusta	Bright & Wither loggers.....	
Ball J L p m.....		Merrill L G m and d.....	
Stone J F & Son m and d.....		Elliott A m and d.....	
Randall S logger.....		Ice J logger.....	
Bowen E.....	Albany	Spaulding D J m and d.....	
Ashland Lumber Co m and d.....	Ashland	Bump Mark logger.....	
Engalls & Co m and d.....		Burchard Harrison logger.....	
Cary Bros m and d.....	Auroraville	Porter W B logger.....	
Flower J H.....	Bangor	Sawyer A E logger.....	
St. Louis & Wisconsin River Co.....	Barnum	Dickson John and James.....	Bloomington



Barron John	Blue Mills	Estabrook W B m and d	Eau Claire
Briggs & Barnes	Boaz	Ingram & Kennedy m and d	Eau Claire
Bucker A	Buffalo	Graham White & Co m and d	
Rouch & Erding	Bonduel P O	Pinkham J P m and d	
Somers W & Bro m and d		Robson John m and d	
Nelson H & Co d	Boscobel	Daniel Shaw & Co m and d	
Weston, Miner & Co m and d (Necedah)		Smith & Buffington m and d	
Pierce & Sly m and d	Branch	Tarrant E m and d	
Yorty J & Kripp d	Brandon	Wilcox & Co m and d	
Bowen E d	Brodhead	Carson & Rand m and d	Eau Galle
Thompson C O d		Week John m and d	Eau Pleine
Lamson C & Co d		Hutchinson & Bro m and d	
Usher & Hassinger d		Brown R E d	Edgerton
Blake Francis W d	Burlington	Huntley & Co d	Elroy
Stevens & Lyons d	Burnett Junction	Webster & Palmer m and d	Embarrass
Fay C B & Co m and d	Casco	Mather & Lowrie d	Emery
Horn F W m and d	Cedarburg	Isabelle Mill Co m and d	Esdalle
Hilgen & Son m and d		Foot, Foster & Co m and d	Eureka
Wehausen Henry m and d		Avery A H m and d	Excelsior
Deniston J C d	Cadiz	Mosier W S m and d	
Deniston C R d		Pearson & Pake m and d	
Staves J M d		Long, Henderson & Coe m and d	Fairchild
Neff D d	Calamine	Randall, Simeon d	Fall Creek Station
Bock Chas d	Calumet	Anderson C B d	Fall River
Myers Jas d	Cambria	Fifeled E d	Evansville
Taylor & Bach d	Carleton	Johnson D & Co d	
Stephens Daniel B d	Cassville	Mack H & Bro m and d	Evanswood
Harris Bros m and d	Cato	Griffith J Q & Son m and d	Fond du Lac
Rix Bros m and d	Cedar Creek	Riley & Bosworth loggers	
Edwards J & Co m and d	Centralia	Hamilton I K & W C loggers	
Garrison O & Co m and d		Fond du Lac Mfg Co m and d	
Lefevre H		Lewis & Steenberg sash doors etc	
Lyon R C s m		McCourt E sash doors etc	
Clark & Scott m and d		McDonald & Stewart sash doors etc	
Graves James m and d	Charlestown	Parker N & Co d	
Union Lumbering Co m and d	Chippewa Falls	Stevely & Higbee p m	
Priest, Coburn & Co p m		McDonald John logger	
Withrow & McRea sash doors etc		Wiley Dr logger	
Marriet, La Beulf & Co loggers		Gainer James logger	
Vincent, Monelert & Co loggers		Chicago & N W Co's mill m and d	
Clark Ira m and d	Clark's Mills	Webster N D logger	
Hilt & Davidson m and d	Clay Bank	Meyer Charles J L sash doors etc	
Tuft Jas shingle dealer		Merryman & Co m and d	
Lampheer H P d	Clinton	McDonald Alexander m and d	
Wilcox Bros & Co d		Sexmith G W m and d	
Colby Mill Co m and d	Colby	Moore, Galloway & Baker m and d	
Graves J S m and d		Parker N & Co	
Bond A D d	Columbus	Mihills U D & Co sash doors etc	
Long & Henderson d		Hamilton & Finley m and d	
F. F. Farnham d		Hunter George logger	
Aldrich V M d	Cooperstown	Curtis & Cornish d	Fort Atkinson
Wright P & Bro m and d	Coral City	Wilcox, Southwell & Co d	
James T & Co d	Darlington	Cook & Foster m and d	Fort Howard
Carpenter H N d		Lamb, Watson & Co m and d	
Woodward T saw mill		C Schwartz & Co sash doors etc	
Clark H d	Deansville	Laird J. P. & Co m and d	
Ross H J & Co d	Delevan	Gray Oscar m and d	
Gormley Watson & Co d	Delevan	Matthales F & C m and d	Fountain City
Blake Samuel m and d	DePere	Bowman W m and d	Frankfort
Smith B. F. m and d		Arpkee F m and d	Franklin
Reid A, p m		Archer & Johnson m and d	Frankville
McLelland John m and d		Arnold G M m and d	
Marsh G S m and d		Cooley & Race m and d	Fredonia
Ritchie James m and d		Cooley & McEroy staves etc	
Monroe John m and d		Bergtresser L m and d	Fremont
Struthers Thomas sash doors etc		Brickley John m and d	
Hiles G m and d	Dexterville	Edwards J & Co m and d	Frenchtown
Remington H W m and d		Sterns & Son staves	Galesville
Worth C M & A R s m	De Soto	Freeman A W d	Genoa
Schofield Chas & Co d	Dyckville P O	Arnold J m and d	Germantown
Kinney Francis m and d	Durand	Natchway H,	Gibson
Plummer & Morse m and d		Olds & Lord m and d	Glenon
Hoard & Earl d	Doylestown	Freeman O. & W. d	Genoa Junction
Knapp, Stout & Co m and d (Menomonee)	Dunnville	Arpen A logger	Grand Rapids
Rosenberg & Co,	Dykesville	Butler & Smith sash doors etc	
Baker & Lee d	Elkhorn	Edwards John & Co m and d	
Larson & Olsen m and d	El Paso	Hertel Fred p m (Centralia)	
Eau Claire Lumber Co m and d	Eau Claire	Trahern W C	
Rathbone N S logger		Arpen J logger	
Rundle & Free sash doors etc		Byron F m and d	
Wheaton Lumber & Mfg Co m and d		Clark & Scott m and d	
Northwestern Lumber Co m and d		Mochan P & J m and d	
Bangs & Fish p m		Neeses Geo & Son m and d	
Boyd A m and d		Rablin John m and d	
Burdett, Preston & Co m and d		Roe & Butterfield m and d	

Scott Thos B m and d.....	Grand Rapids	Mitchell A S p m.....	LaCrosse
Whipple E F s m.....		Ross Robert m and d.....	
Weed Lumber Co m and d.....		Barron John m and d.....	Lafayette
Hickerson N H.....	Grantsburg	Robson John m and d.....	
Graves J A m and d.....	Gravesville	Sanford G P & Co d.....	Lavale
Modlin Henry.....		Leigh J m and d.....	Little River Mills
Earle & Case s m.....	Green Bay	Mikel John James m and d.....	Little Wolf
Willard Lamb m and d.....		Gardner & Co m and d.....	Little Suamico
McIntosh C E s m.....		Conn A C & Co m and d.....	
Lamb, Watson & Co m and d.....		Olsen Geo & Co.....	
Woodruff J W & Co m and d.....		Zeider L.....	Lomira
Holmes & Thompson m and d.....		Snow W H d.....	
Anton Burkhardt p m.....		Vaesch & Runkle.....	Lowell
Klaus Anton m and d.....		Smith D F m and d.....	Luck
Marshall & Darling s m.....		McMillan A d.....	Lyndon
Herling Theo m and d.....	Green Bush	Eighmy Freeman d.....	McFarland
Sultz, Lewis & Henry m and d.....		Bunker & Vroman d.....	Madison
Schmidt Adam m and d.....	Harrisville	Sorenson & Frederickson p m.....	
Ewing Thos m and d.....	Hartford	Stein C R d.....	
Mills J D d.....	Hartland	Taylor C L staves.....	Malden Rock
King P & Son d.....	Helena	Cooper & Jones.....	Manitowoc
Tripp N D d.....	Hillsborough	Woerfel E staves.....	
Fisher J.....	Horicon	Guyles & Pankratz d.....	
Briggs & Son m and d.....	Hortonville	Hubbard H F d.....	
Gowell, Logan & McMurdo m and d.....		Zander & Co p m.....	
Redout Bros sash doors etc.....		Klingholz Charles m and d.....	Manitowoc Rapids
Whitman & Morse m and d.....		Pierce Plinn.....	
Baldwin D A m and d.....	Hudson	Reune Chas m and d.....	Maple Works
Palmer H G & Co m and d.....		Brayton L J d.....	Marquette
White & Jones sash doors etc.....		Green J S d.....	
King G W logger.....	Humbird	Hamilton, Merryman Co m and d.....	Marinette
Roberts John d.....	Iron Ridge	Tweedie & McMaster p m.....	
Blair J d.....	Janesville	Menominee Mfg Co m and d.....	
Effield, D K d.....		Spaulding, Houghtaling & Johnson m and d.....	
Bovey & Blount d.....		McCartney Wm m and d.....	
Jeffries David d.....		N Ludington Co m and d.....	
Schutt U d.....		Whitbeck H Co m and d.....	
Hitchcock & Reind d.....	Jefferson	Bartlett L H d.....	Marshall
Andrews F M & Co m and d.....	Jenny	Craig & Maroney sash doors etc.....	Mauston
Matthews Thos m and d.....		King Walter staves.....	
Jewett A S & Sons m and d.....	Jewett's Mills	Webster C m and d.....	Maxville
Sutherland Sol.....	Juda	Bronson D W d.....	Mazo Manie
Knapp J R d.....	Juneau	Hewitt Henry, Jr logger.....	Menasha
Taber J B & Co.....	Kansasville	Mitchell, Watkie & Co sash doors etc.....	
Backus N G d.....	Kenosha	Potter & Dutchman m and d.....	
Harrison W M p m.....		Schneider & Ruth p m.....	
Head & Southerland d.....		Spaulding, Houghtaling & Johnson m & d.....	Menekaune
Grant & Son, Market d.....		Stephenson T & Co m and d.....	
Truedell Gideon, 3 Main d.....		Knapp, Stout & Co m and d.....	Menominee
Hitchcock & Mashek m and d.....	Kewaunee	Bainbridge W.....	Mifflin
Slauson, Grimmer & Co m and d.....		Harker & Bainbridge.....	Milfin
Stranky W m and d.....		Greene N S & Co.....	Milford
Dikeman & Latimer s m.....		Brown & Evans m and d.....	Mills Centre
Walker, Munger & Co sash doors etc.....	Kilbourn City	Dunham L m and d.....	
Britton C W m and d.....	Kinnelkinnic	Lucas & Bro m and d.....	
Brook V logger.....	Knowlton	Wight S s m.....	
Wallace & Redford m and d.....		Greenman R J d.....	Milton Junction
Cloespeck M m and d.....	Kossuth	Hutchinson James d.....	Mineral Point
Kellnor M m and d.....		White S d.....	
Black River Improvement Co.....	LaCrosse	Weyhausen A m and d.....	Mishico
Hogan & Chamberlain loggers.....		Williams J W saw mill.....	Monro
McDonald Bros loggers.....		Dodge, Churchill & Co p m.....	
Salzer G. J.....		Dodge & Davenport d.....	
Crosby W. W m and d.....		Rood J L d.....	
Coleman C L m and d.....		Dessert J R m and d.....	Mosinee
Gile & Holway m and d.....		Kronenwetter S m and d.....	
Moorer R M logger.....		Garland J d.....	Muscoda
Bright & Withee m and d.....		Bull & Bowers.....	Muskego Centre
Lill & Fouroer m and d.....		Houghton Geo G & Co m and d.....	Milwaukee
Hewett & Woods m and d.....		Schroeder & Stehman, dealers.....	
Hixon & Withee m and d.....		Ernst Herzer, Planing mill.....	
McMillan Alexander loggers.....		Wm. Willer, planing mill.....	
McMillan Duncan D loggers.....		H. Jalass & Co., planing mill.....	
Nevins S L m and d.....		Brockhaus & Bradley, planing mill.....	
Paul John m and d.....		W. C. Conway, planing mill.....	
Pelleys W H logger.....		Nic. Schuh & Son, dealers.....	
Root W C logger.....		Engelmann, Babcock & Salling, Manu- facturer and dealer.....	
Sill Wm R logger.....		Ewing Thos K commission.....	
Vincent & Edwards d.....		Weston Bros, manufacturer and dealer.....	
Washburne C O m and d.....		Mayhew Bros d.....	
Weston R S m and d.....		Durr & Ruege d.....	
Emery T B logger.....		Schmidt & Reichel d.....	
Goddard H logger.....		Judd T H & Co d.....	
Hankerson A H logger.....		Comstock L & Co m and d.....	
La Crosse Lumber Co m and d.....			

Chandler Walter S d.....Milwaukee	Talboys & Hanscome m and d.....Osceola
Seyfried Martin d.....	Knapp L E m and d.....Ost kosh
Brembach Fred d.....	Neff A & Co p m.....
Mabbett & Foster d.....	Chapman L C & Co p m.....
Simpson E. B & Co commission.....	Thompson A p m.....
Pierce R. W. & Co d.....	Vandercok & Furgerson p m.....
Merrill Bros m and d.....Merrilan	Gould J P sash doors etc.....
Ketchum H & Co m and d.....	Porter & Batts sash doors etc.....
Warren J M logger.....	Jenkins J & Co m and d.....
Hayden A S logger.....	Harris M m and d.....
Clark S & Son logger.....	Osborn & Christenson s m.....
Merrill L G m and d.....	Conlee Bro & Co m and d.....
Austin G A & Co m and d.....Nellsville	Lane C & W logger.....
Gallaher L W sash doors etc.....	Gill & Son loggers.....
Gile & Halloway m and d (La Crosse Wis)	Freeborn John logger.....
Kellogg A S.....Neshoto	Turner Bros contractors.....
Cooper Jones & Co m and d (Two Rivers Wis)	Sturtevant & Son contractors.....
Cooper, Myers & Co.....	Stevenson Chas logger.....
Cooper & Jones.....	Danforth Josiah logger.....
Raymond & Jones.....	Reynolds Paul contractor.....
Lamb W.....New Franklin	Jewell, Lawrence & Co loggers.....
Latham & Smith.....New Franklin	McNair Jas logger.....
Smart J & E (manufacturers) Bridge, New Lisbon	Doughty & Bro loggers.....
Nichols D.....	Streeter Geo logger.....
Bradford, McCoy & Co m and d.....Necedah	Rockwell & McCord loggers.....
Fuller & Co sash doors etc.....	Bray & Chote loggers.....
Burch G B & Co m and d.....	Lynch John logger.....
Dill M B & Co s m.....	Wall & Fitzgerald loggers.....
Shorey P & Bro m and d.....	Rumery & Kellogg loggers.....
Weston T & Co m and d.....	Miller J J logger.....
Sherry Henry d.....Neanah	Fuinely & McDonald logger.....
Sanford J B p m.....	Eighme R P logger.....
Hewitt & Woods m and d.....Nellsville	Stevenson, Badgett & Co m and d.....
King G W m and d.....	Williamson G M & Co p m.....
Green A logger.....	Wetherby David logger.....
Lindsley F D logger.....	McAllyster J P logger.....
Putnam L G d.....Neosho	Hanson W E logger.....
Nichols D.....New Lisbon	Crowell & Son logger.....
Hale & Springsted m and d.....New London	Webb, Albert & Co s m.....
Dixon H S m and d and staves.....	Myers & Van Every s m.....
Dougherty, Delano & Demming sash doors etc.....	James & Stille d.....
Ketchum H m and d (Merrilan Wis)	Lines, Libbey & Co p m.....
Jacobs E P m and d.....New Richmond	Morgan Bros m and d.....
Johnson Bros m and d.....	Weed J H & Co m and d.....
Pierce & Son m and d.....	Fraker J S s m.....
Brown J & Co m and d.....Northport	Spalding & Peck m and d.....
Wisconsin mnfg Co m and d.....	Campbell Wm & Sons m and d.....
Putnam & Blair sash doors etc.....Oakfield	Libby D L & Co m and d.....
White J T & Co p m.....	Regan, Cheney & Pratt m and d.....
Streeter J & A C & Co d.....Oconomowoc	Doe & Miller m and d.....
Roll & Turnham p m and sash doors etc	Ripley & Mead m and d.....
Vilas G d.....	E. C. Kellogg logger.....
Woodruff Bros d.....	John A. Paige Pres Wolf River Broom Co..
Brunquest W m and d.....Oconto	Durby & Curran s m.....
Flanders W B logger.....	McMillan R. & Co m and d.....
Goodrich T B logger.....	Sawyer P & Son m and d.....
Luby logger.....	Raine R N & Co m and d.....
Orr, Newell & Co m and d.....	Reed L B & O B m and d.....
Jacob Spies m and d.....	Sheldon L P & Son m and d.....
Leigh John m and d.....	Laabs J & Co m and d.....
Oconto Lumber Co m and d.....	Buckstaff Bros & Chase m and d.....
Comstock & Simpson m and d.....	Foster & Jones m and d.....
Holt, Balcom & King m and d.....	Henderson & Wilson d.....Palmyra
Pierce L M p m and sash doors etc.....	Mitchell Bros d.....
Winslow, England & Co m and d.....	Gray A D m and d.....Pepin
Livermore & Co m and d.....Ogdensburg	Peshigo Co m and d.....Peshigo
Loosey Chas d.....O'Kee	Prutzmann Henry d.....Pewaukee
Vanderpool & Clark d.....	Frisbee & Westover d.....Pine River
Woodley Samuel d.....	Gratlot E H d.....Platteville
Culver E d.....Ontario	Lovelson F m and d.....Plum City
Lovejoy & Richards d.....Oregon	Bowman G M d.....Plymouth
Harris D d.....Orfordville	Mc Graw E M & Co d.....
Johnson H & Co m and d.....Omro	Wentworth, McGregor & Co d.....Portage City
Morton, Arnold & Morton p m.....	Carnegie A p m.....
Webster & Foster m and d.....	Lyon D B & Son d.....
Wilson A m and d.....	Neavel & Davis d.....Potosi
Foster N C m and d.....Owego	Schneider Joseph d.....
Hall Chas s m.....Onalaska	Jamison Hugh d.....Poynett
Hayden L D (La Crosse Wis).....	Reynolds & Lenfeldt p m.....Prairie du Chien
Moore R M (La Crosse Wis).....	Smith & Foster m and d.....
Nichols Chas H & Co m and d.....	Weston T & Co m and d (Necedah).. Prairie du Sac
Bradley C G m and d.....Osceola	Meacham & Bro p m.....Prescott
Stapels C H logger.....	Green G d.....Princeton
Dresser & Wilson m and d.....	Gillon N.....Pine Grove
	Glawe C.....

Bruce, Fuller & Co.....	Rock Falls	Moe Louis I logger.....	Stevens' Point
Garland & Nichols.....		Lester & Plummer m and d.....	
Peck S B & Son d.....	Racine	Park G L logger.....	
Driver Thos p m.....		Pike E L logger.....	
Kelly, Murray & Co d.....		Perry I & J logger.....	
Kensie W D & Co sash doors etc.....		Rennie John logger.....	
Miner E B & Co sash doors etc.....		Robeson J M m and d.....	
Sawson Jas R & Co d.....		Reading & Van Order shingles.....	
Iley & Wilson d.....	Randolph Station	Richardson Chas logger.....	
Tremble & Doud, State d.....		Clifford Wm J logger.....	
Cushman A G.....	Readstown	Rousseau M A m and d.....	
Smith Timothy.....	Reedsburgh	Sherman S A m and d.....	
Snow W H d.....	Reeseville	Scott Bros m and d.....	
Remington H W m and d.....	Remington	Sheckels Wm logger.....	
Rudolph C J.....	Richland Centre	Walker & Wadleigh m and d.....	
Richardson Mrs. W d.....	Richland City	Whitney Ebenezer logger.....	
Learmouth J d.....	Rio	Wade Geo & Co shingles p m.....	
Barlow J B & Co d.....	Ripon	Welch Adam logger.....	
Lanning A J m.....		O C Wheelock logger.....	
Chinock J P s m.....	River Falls	Callahan Chas logger.....	
Foss H W d.....	River Side	Redfield John logger.....	
Shriland & Co s m.....	Robinson	Isherwood J & H logger.....	
Pease D G m and d.....	Rockbridge	Johnson J O logger.....	
Hawn Charles m and d.....	Rock Elm	Martin John R logger.....	
Pedrick M d.....		Clark Owen m and d.....	
Bowman Na m and d.....	Roundhill	Cooper B F m and d.....	
Moore J P & Co d.....	Royalton	Cronkwhite, Plummer & Co m and d.....	
Judd, Walker & Co m and d.....	Saint Croix	Clements D R logger.....	
Roberts George m and d.....	Sandy Bay	Cook Corneilius logger.....	
Halasz Chas d.....	Sauk City	Curran H & J D loggers.....	
Obrecht C d.....		Severson S H d.....	Stoughton
Cowles H K & Bro m and d.....	Scott	Turner O M d.....	
Girard & Co m and d.....	Senaca, Wood Co	Ardt F p m.....	Sturgeon Bay
Campbell Y d.....	Sharon	Wright Rufus m and d.....	
Daniels G d.....		Anderson Geo.....	Seymour
M. McCord logger.....	Shawano	McIntosh, Ross & Perry m and d.....	
Beecher L S logger.....		Callon Wm m and d.....	Sherman
Miller, Mathias m and d.....		Gray J m and d.....	Saumico
C. D. Wescott logger.....		Klaus & Wright m and d.....	
Asa Hicks logger.....		Bruce J & Co.....	
C. Crowley logger.....		Cook & Sons.....	
Hooker A d.....	Sheboygan	Trumble M E & Co m and d.....	
Thompson & Schroeder d.....		Gray O m and d.....	
Winters M d.....		Lamb, Watson & Co m and d.....	
Weeks A L d.....		Marshall & Co.....	
Haseltine C P m and d.....	Sherman	Weed A & Co m and d.....	
Kelly W P & Co m and d.....		Howard John D m and d.....	Superior
Bishop Bros staves and m and d.....	Sherwood	Peylon H M & Co m and d.....	
Nugent & Collins m and d.....		Angell W H & Son d.....	Sun Prairie
J. H. Parks logger.....	Shiocton	Eldred Anson m and d.....	Stiles
Mason, Barnes & Co m and d.....		Zimmermann W d.....	Theinsville
W. D. Jordan m and d.....		Huct John.....	Trim Bell
Harriman Samuel m and d.....	Somerset	De Coursey M m and d.....	Trap River
Irwin O L, Maple d.....	Sparta	Gleason & Squires m and d.....	Tomah
Holden G B d.....		Warren & Gamble m and d.....	
Setson Bros p m.....		Barrett J M d.....	Trempealeau
Walker J H d.....		Reed Joseph.....	Tyrone
Farnum E B d.....	Springfield, Walworth Co	Mann Joseph & Co m and d.....	Two Rivers
Hopkins P G d.....		Cooper & Jones m and d (Manitowoc).....	
Bennett T m and d.....	Star	Goyt C.....	Ualo
De Jean T D & A W m and d.....		Foster N C s m.....	Upper Duck Creek
Seely & Son m and d.....		Lucas J & Bro s m.....	
Kellogg & Son m and d.....	Stephensville	Hamlin & Ford d.....	Watertown
Wunderlich Z m and d.....		Bray, Robinson & Co d.....	Waldo
Smith & Halsted Bros m and d.....	Stockbridge	Sibley C L d.....	
Stafford L R.....	Staffordsville	Whitney & Darling d.....	
Bailey D C logger.....	Stevens' Point	Cooley C F & Co m and d.....	Waubeka
Blake & Mitchell loggers.....		Howlett & Co p m.....	Waupaca
Benson P & Bro loggers.....		Payne & Co m and d.....	
Burns, Thompson & Co m and d.....		Smith & Foster.....	Wauzeka
Boynton N m and d.....		Lewellen & Lunn.....	Waterloo
Brown E D m and d.....		Squires & Sheldon.....	
Bean T G & Son m and d.....		Hamlin J H & Co d.....	
Campbell P logger.....		Streeter J & A C & Co W Water d.....	
Homestead Seth logger.....		George V. Brill p m.....	Wrightstown
Gilchrist A B logger.....		Mc Kesson staves.....	
Goodhue Geo J, Jr logger.....		Hammond Alfred.....	Waukechon
Hungerford Seely logger.....		Semple A.....	
Hutchinson & Bro m and d (Eau Claire)		Semple F.....	
Hubbard — shingles.....		Richardson Silas d.....	Waukesha
Karner S H m and d.....		Morse O A d.....	Waupun
Knox Bros m and d.....		Hollendyke N d.....	
Meehan Bros m and d (Linwood).....		Andrews & Parcher m and d.....	Wausau
McDill T & Bro m and d.....		Callon John T m and d.....	
McMillan & Sons m and d.....		Callon Wm m and d.....	



Ancult & Callon m and d.....	Wausau	Enderby & Austin staves.....	Wellington
Allen Henry.....		Mc Queen, Davis & Co d.....	Werner
Bernhard & Simpson loggers.....		Shell Bros d.....	West Salem
Clarke J C m and d.....		Littlejohn A M d.....	
Clark T W logger.....		Weed, Gummaer & Co m and d.....	Weyauwega
Cohn & Curran m and d.....		Nutt M E & Phillips s m.....	Winneconne
Daniels H s m.....		Ingersoll, Kising & Co m and d.....	
Miller Hermann logger.....		Jones, Wellington & Co m and d.....	
Kickbush & Bro loggers.....		McArthur & Co m and d.....	
Leahy Capt J logger.....		Starks, Stickle & Co p m.....	
Lawrence & Peters loggers.....		Schultz C.....	Woodland
Manson Rufus m and d.....		Day C & Co m and d.....	Wrightstown
McCrosen Jas logger.....		Mc Kesson staves.....	
Plummer B G m and d.....		Converse H.....	Wyocena
Single Ben m and d.....		Wells & Craig.....	
Single Jas m and d.....		King P & Sons d.....	Wyoming
Stewart A & J m and d.....		McCutchen H d.....	
Wenhime & Kickbush loggers.....		Haverson & Peterson m and d.....	Yankeetown
Zastrow Ed logger.....		Twing A.....	

## MICHIGAN.

Hoxie L S m and d.....	Acme	Wilson H D s m.....	Anster City
Headley John.....	Ada	Hawley A M.....	Averill's Station
Raker D M d.....	Adrian	Miller A & G m and d.....	
Berry James m and d.....		Steele C s m.....	
Maxwell A & Co p m.....		Kroetzer G & Co p m.....	Bainbridge
Wright Peter m and d.....	Alamo	Babcock Surret & Co m and d.....	Baltimore
Cosad & McGregor.....	Albion	Crutcher G W m and d.....	
Haynes & Beard m and d.....	Alcona	Childs E J sash doors etc.....	Baugor Van Buren Co
Folkerts F C & Co m and d.....	Algonac	Coombs & Smiley m and d.....	
Smith A & S S m and d.....		Green & Thompson m and d.....	
Allegan Mfg. Co p m.....	Allegan	Nyman J H m and d.....	
Bass B.....		Moore Smith & Co m and d.....	Banks Bay Co
West N B sash doors etc.....		Taylor & Moulthrop m and d.....	
Roberts Richard m and d.....	Allendale	Keystone Lumber Co m and d.....	
German & Dewey m and d.....	Allens	Bendry James m and d.....	Baraga
Wright Ira.....		Buck Hoyt & Co p m.....	Battle Creek
Winchester & Parish staves.....		Dwinell Pettee & Edwards sash doors	
Pierce, Hall & Ward m and d.....	Alma	Ellison H H & Co d.....	
Wise & Co sash doors etc.....	Almena	Halbert & Knight sash doors etc.....	
Farnum Rufus K m and d.....	Almont	Leggett S L p m.....	
Bewick Comstock & Co m and d.....	Alpena	Mason Rathbon & Simmons d.....	
Campbell Potter & Co m and d.....		Avery Murphy & Co m and d.....	Bay City
Davis D G & Co s m.....		Ames Bros m and d.....	
Doane Bingham & Co sash doors etc.....		Archibald & Bradley m and d.....	
Fletcher A F & Co m and d.....		Bradley H M & Co m and d.....	
Felkirts & Butterfield m and d.....		Bradley N B & Co m and d.....	
Gilchrist Frank m and d.....		Carney R J commission.....	
Hough Hillard & Co m and d.....		Carney T sash doors etc.....	
Mason Luce & Co m & d.....		Carrier John & Co m and d.....	
Minor J S & Co shingles.....		Chapin & Barber m and d.....	
Morse H K.....		Chapman G P & B.....	
Prentise Geo & Co m and d.....		Dolson Chapin & Co m and d.....	
Richardson Avery & Co m and d.....		DeWitt Jas N m and d.....	
Richardson Arthur E.....		Eddy Avery & Co m and d.....	
Richardson Chas W.....		Folsom & Arnold m and d.....	
Richardson Geo.....		Gardner F F & Son.....	
Spratt Aug.....		Gates & Fay m and d.....	
Cummings Geo W s and m.....	Arnsden	Halser F & A.....	
Ferdon John & Son d.....	Ann Arbor	Hay Butman & Co m and d.....	
Krapp Conrad d.....		Hitchcock & Ingraham m and d.....	
Wright J S m and d.....	Antrim	Miller Albert m and d.....	
Battershall L A m and d.....	Arcade	McEwen John m and d.....	
Jackman J F m and d.....	Armada	McGraw John & Co m and d (Portsmouth).....	
Miller Caleb & Sons m and d.....		McRoberts & Savage square timber.....	
Battershall L A m and d (Arcade).....	Attica	McLean Seth & Son m and d.....	
Darwood & Daley m and d.....		Moore Smith & Co m and d.....	
Jenness J N & Co m and d.....		Patrick M S.....	
Williams W m and d.....		Peters W m and d.....	
Bracy & Clark p m.....	Augusta	Pitts & Cranage m and d.....	
Davis Wilson m and d.....	Aurelius	Ramsdell James.....	
Davis B G & Co m and d.....		Richards Miller & Co m and d.....	
Au Sable Lumber and Shingle Co m and d.....	Au Sable	Rouse J M m and d.....	
Backus & Bros m and d (Detroit).....		Rust A & Co m and d.....	
Charles Stone Timber Co (Detroit).....		Rust Hay & Co.....	
Colwell Smith & Langstaff m and d.....		Sage H W & Co m and d (New York city).....	
Glennie J W m and d.....		Sanford J S p m.....	
McDonald D A.....		Shearer James & Co m and d.....	
Moore Alger & Co m and d (Detroit).....		Stevens & Shailer m and d.....	
Moore & Tauner.....		Smith & Westover.....	
Vaughan S.....		Smith & Wheeler p m.....	
Richardson J C m and d.....	Auster City	Talbert James.....	
		Taylor Moulthrop & Co.....	

VanEtten Kaiser & Co.....	Bay City	Hart & Richardson p m.....	Charlotte
Webster S H & Bro m and d.....		Johnson N A p m.....	
Westover Culver & Co.....		Loring Allen T.....	
Whilhauer Schuerman & Co.....		Merritt & Co p m.....	
Whipple Parmely & Co m and d.....		Smith J W H & Co m and d.....	
Watrous Bros & Co m and d.....		Hurd & Smith m and d.....	Cheboygan
Watrous M & Sons m and d.....		McArthur Smith & Co m and d.....	
Hopkins Bros & Wise m and d.....	Bear Lake	Mattoon S A m and d.....	
Anderson D H & Co m and d.....	Bear Lake Mills	Nelson Strahn & Co m and d.....	
Wilson Lather & Wilson m and d.....	Beiding P O	Prentice Geo H m and d (Detroit).....	
Davey W & Co d.....	Bellevue	Smith David m and d.....	
Hull Bros p m.....		Smith Thompson m and d.....	
Smith A A & Co m and d.....	Bell River	Smith E & F s m.....	
Remick E & Co m and d.....	Benona	Vorce Barker & Co m and d.....	
Williams H m and d.....	Benton Harbor	Weller J B & Co m and d.....	
Cave L W m and d.....	Benonia	Goodale J C m and d.....	Cheesaning
Fitch & Phelps m and d.....	Big Rapids	Nason R H & Co m and d.....	
Green L H m and d.....		Garton & Davenport m and d.....	Chester
Ives S m and d.....		Cobb J W m and d.....	Clam Lake
Monroe Bros & Rose s m.....		Coombs & Bro m and d.....	
Stimson L D m and d.....		Harris & Bro m and d.....	
Stinson & Clark m and d.....		McKinnon D C.....	
Wood H B sash doors etc.....		Mitchell Geo A m and d.....	
Ballard & Co m and d.....	Birch's Mills	Shackleton & Green m and d.....	
Stanton Leroy s m.....		Starrett Henry d and p m.....	Clinton
Weller John m and d.....		Linderman & Ricker m and d.....	Clintonville
Whitney M S m and d.....		Curry Jos L.....	Clio
Brown John m and d.....	Bird	White John.....	
Hipp & Hays m and d.....		Maxwell H N & Co m and d.....	Clyde Mills P O
Smith W H m and d.....	Birmingham	Vincent Edward m and d.....	
Ferry & Sons m and d (Grand Haven).....	Black Lake	Atkins Gilbert & Co p m.....	Coldwater
Jipson H m and d.....	Blissfield	McLane & Frith d.....	
Wiley, Lane & Co staves.....		Sweet G C m and d.....	Columbia
Anable T C m and d.....	Bloomington	Hemingway H L & J L m and d.....	Columbiaville
Conger & Broadwell m and d.....		East Thos m and d.....	Columbus
Holmes L K m and d.....		Hungerford R H d.....	Concord
Kilheffer & Ames m and d.....		Boubright & French m and d.....	Constantine
Jenson L & Co s m.....	Blue Lake	George & Tweedall sash doors etc.....	
Schmitz Anthony m and d.....	Blunfield	Harwood H J & Co m and d.....	
Bond Bros m and d.....	Bonds Mills	Jones Wolf & Co m and d.....	
Bowen E H & Son m and d.....	Bowen's Mill	Hart J P m and d.....	Coral
Headley Silas m and d.....		Wagley John.....	Cross Village
Richardson J H m and d.....	Browne	Backart Geo m and d.....	Croton
Brown Sarah D m and d.....	Breedsville	Collins David m and d.....	
Purley Putnam & Son m and d.....	Bridgenan Laketon P	Higbee Nelson m and d.....	
Wed B staves.....		Rice W m and d.....	
Brucker F & Co shingles.....	Bridgeport Center	Oneida Lumber Co m and d.....	Crow Island
Hill L L m and d.....		Fuller & Smith m and d.....	Crystal P O
Hodgeman L m and d.....		Coffin & Cuddeback m and d.....	Dallas
Ketchum Bros shingles.....		Needham & Wilson m and d.....	Dayton
Phelps & Wyman m and d.....	Bridgeville	Wilson Jas H m and d.....	
Holmes J m and d.....	Bronson	Wallace John B m and d.....	Dearborn
Richards & Fox m and d.....	Buchanan	Bull & Ackley m and d.....	Decatur
Roe Charles m and d.....		Rawson L T p m.....	
Sherwood Alonzo m and d.....		Roger A H & Co m and d.....	
Pierce L m and d.....	Burlington	Warner J P m and d.....	
Herrington & Bros m and d.....	Burnips Corners	Blinn & Row staves.....	Deerfield
Baker O R p m.....	Camden	Lovett & Smith p m.....	
McKinley James p m.....		Packard & Son m and d.....	
Welker H R m and d.....	Campbell	Adams & Ferguson m and d.....	Detroit
Downey Bros m and d.....	Capax	Allen E G d.....	
Tibbals Botsford & Co staves.....		Avery & Murphy m and d.....	
Ballantine H A & Co m and d.....	Carrollton	Backus & Bro m and d.....	
Carrollton Lumber Co m and d.....		Bears J H d.....	
Gould Erastus T m and d.....		Bewick, Comstock & Co m and d.....	
Jerome T & Co m and d.....	(New York City)	Bigelow A E d.....	
Litchfield E C m and d.....	(Detroit)	Brooks C F m and d.....	
Merrill C & Co m and d.....		Campbell E P d.....	
Saylor T & Co m and d.....		Carrier August d.....	
Shaw & Williams m and d.....		Carrier Byron d.....	
Tilden & Sackett m and d.....	Carson City	Chisholm Jas d.....	
Congdon & Colton m and d.....		Crapo W W m and d.....	
Lacy John G sash doors etc.....	Caseville	Damon J B T & Co m and d.....	
LaDue & Young m and d.....	Cedar Springs	Detroit Lumber & Wooden Ware Works.....	
Crawford Frank m and d.....		Dewey J & Son sash doors etc.....	
Barber W L.....		Dingeman & Rabaut sash doors etc.....	
Beckhart Jacob p m.....		Dubois Lewis p m.....	
Benedict J O & E R s m.....		Dwight Wm M & Co m and d.....	
Graham C & Co m and d.....		Faulconer R C d.....	
Grosvenor E m and d.....		Ferguson A & Co d.....	
Moon Chas B m and d.....		Fletcher Geo M m and d.....	
Hubbard & Wood m and d (Chicago).....	Charlevoix	Flynn John sash doors etc.....	
Esterly Geo W & Co m and d.....		Foster Joseph E d.....	
Charlotte Manufacturing Co staves.....	Charlotte	Gamble P M d.....	
Curtis Houck & Bennett p m.....		Green Geo B & Co d.....	

Hebard Chas d.....	Detroit	Glynn P & Co m and d.....	East Saginaw
Hubbard & King d.....		Goddard E G m and d.....	
Huehner E sash doors etc.....		Grant C W & Co m and d.....	
Huff & Vandermullen d.....		Grant & Saylor m and d.....	
Ingersoll J W p m.....		Hill Jas H.....	
Ives, Green & Co m and d.....		Hunter Bros.....	
Japes John sash doors etc.....		Hoyt Jesse m and d (N Y City).....	
Jesup & McCune d.....		Johnson T B s m.....	
Kershner & Rea d.....		Jones Chester B m and d.....	
Klien Martin d.....		Lee Charles m and d.....	
Loud Gay & Co m and d.....		Mc Cormick A W.....	
Lyon Isaac L d.....		Mc Dougall R B.....	
Nason Chas E d.....		Lathrop, Inscho & Co m and d.....	
Merrill & Palmer m and d.....		Marks & Flitz.....	
Moffat Hugh m and d.....		Merrill Chas & Co m and d.....	
Moore Chas F d.....		Mitchell & Roland Lumber Co m and d (Cincinnati).....	
Moore Frank d.....		Oneida Lumber Co m and d.....	
Moore F & S d.....		Ortman Chas L m and d.....	
Moore & Alger m and d.....		Owens & Brewer m and d.....	
Oakes Wm d.....		Rose D F & Co m and d.....	
Osborne C F & Co d.....		Rust J F & Co m and d.....	
Parley J H d.....		Saylor T & Co m and d.....	
Pitts & Cranage m and d (Bay City).....		Sears & Holland m and d.....	
Prentice Geo H m and d.....		Ten Eyck C E s m.....	
Raam & Co sash doors etc.....		Terry Seeley & Spencer m and d.....	
Rea W J d.....		Tolfree & Simpson m and d.....	
Remick R C d.....		Turner H m and d.....	
Ross Geo d.....		Tuttle & Pease m and d.....	
Ross Daniel A & Co m and d.....		Thompson, Camp & Potter m and d.....	
Ross Geo A & Co d.....		Warner & Eastman m and d.....	
Ross A & Co d.....		Wiggins G B & B J m and d.....	
Schneider Stephen sash doors etc.....		Wright & Co m and d.....	
Skillings & Whitney Bros m and d.....		Yawkey, Wideman & Co m and d.....	
Standish J R pine lands.....		Adams, Jolley & Co m and d.....	East Tawas
Stevie A M d.....		Bliss & Pierce m and d.....	
Tegeler Chas sash doors etc.....		Grant W G & Son m and d (N Y city).....	
Turner Robert sash doors etc.....		Smith H P & Sons m and d.....	
Warriner W d.....		Stants & Quackenbosh p m and sash etc.....	
Weber J F & Co d and sash doors etc.....		Garton & Davenport m and d.....	Eaton Rapids
Whittemore & Prentice m and d.....		Perrine D W & S C m and d.....	
Wright H A & S G d.....		Stevens C W staves.....	
Williams, Osborne & Co m and d and p m.....		Hipp B W.....	Eau Claire
Wood W H & Co sash doors etc.....		Anderson J H m and d.....	Edgerton
Homes Geo m and d.....	De Witt	Becker G m and d.....	
C peland R P.....	Dexter	Bradfield E m and d (Ada).....	
Pratt Geo.....		Cain James m and d.....	
Gay Thos m and d.....	Douglas	Cook & Scarvel s m.....	
Judd W sash doors etc.....	Dowagiac	House Oscar m and d.....	
Sill Benj. D & Son m and d.....		Kidder M C m and d.....	
Starett C p m.....		Monroe & Jones m and d.....	
Darwood & Dally m and d.....	Dryden	Porter D m and d (Rockford).....	
Mears C m and d (Chicago).....	Duck Lake	Porter Seth s m.....	
Hall, Ward & Brewer m and d staves.....	Dundee	Truax Jas H s m.....	
Hunt, Wheeler & Co sash doors etc.....		Dexter & Noble m and d (Chicago).....	E'k Rapids
Morse Nathan m and d.....		Blair E W p m.....	Elsie
Stowell J A m and d.....		Leach & Ramsey m and d.....	
Kellogg & Sawyer m and d.....	Dunningsville	Mc Quinton Robt m and d.....	
McCrum Geo W m and d.....	Eagle	Moore J B m and d.....	Emmett Station
Mitchell & Mahan m and d.....	East Bay	Butler & Gallagher m and d.....	Erie
Bushnell John m and d.....	East Leroy	Herman & Son m and d.....	
Quick, Fish & Andrews m and d.....		Whittington W & D E m and d.....	Escanaba
Eastman Galen m and d (Grand Haven).....	Eastmanville	Glaser Emil p m.....	Essexville
Hufferan Thos m and d.....		Ames Bros m and d.....	
Thayer Edwin m and d.....		Carrier John & Co m and d (Bay city).....	
Allison J P m and d.....	East Saginaw	Ferris & Hull m and d.....	Estella—Sunner P O
Allison W Q m and d.....		Hicks James m and d.....	
Ballantine H A & Co m and d.....		Tucker, Morris W & Co.....	
Bissell A G & Co m and d.....		Kanfield & Andrews m and d.....	Eureka
Burt W R & Co m and d.....		Davis & Curtis m and d.....	Evart
Bundy & Youmans m and d.....		Farewell Jas G m and d.....	
Burnham & Still m and d.....		Hamilton & Mason s m.....	
Cummings L E & Co m and d.....		Lamb & Matthews m and d.....	Exeter
Duncan & Gamble m and d.....		Palmer, Welch & Russ m and d and staves.....	
Dutton C S staves.....		Scotfield S A m and d.....	
Estabrook & Mason m and d.....		Travor staves.....	
East Saginaw Manufacturing Co.....		Bloomer E J m and d.....	Fairfield
Eaton, Potter & Co m and d.....		Calvin John m and d.....	
Eddy C K m and d.....		Faller & Sager p m.....	
Eddy, Avery & Co m and d.....		Odell S & J m and d.....	
Edwards & Sanborn m and d.....		Myer Henry shingles.....	Fair Haven
Elsworth Arthur L.....		Schnoor H C m and d and staves.....	
Finnal Wm.....		Farwell & Sawyer m and d.....	Fair View
Gamble John m and d.....		Parkins & Sons m and d.....	
Gardner F F & Sons.....			
Gebhart & Estabrook m and d.....			

Batcheller, Slaught & Co m and d (Chicago).....	Ferrysburg
Slatt & Co m and d.....	
White, Glover & Co m and d.....	
Balley C C m and d.....	Flie Lake
Gilbert Ira W m and d.....	
Walter W L s m.....	Flat Rock
Atwood J B & Co m and d.....	Flint
Beardsley, Gillis & Co sash doors etc.....	
Begole, Fox & Co m and d.....	
Briscoe & Lockwood.....	
Busenbark & Stone.....	
Carpenter Samuel m and d.....	
Crapo W W m and d.....	
Decker Grant staves.....	
Eddy Chas C & Co m and d.....	
Eddy Jerome p m.....	
Gibbs D & Co.....	
Hamilton Wm m and d.....	
Hascall H C m and d.....	
Lee & Wilcox.....	
Mc Creery W B p m.....	
Mc Farland A m and d.....	
Smith Hiram m and d.....	
Davenport Geo & Co m and d.....	Florence
Grant & Saylor m and d (East Saginaw)	
Haskins, Martin & Wheeler m and d (East Saginaw).....	
Merrill Chas & Co m and d (East Saginaw)	
Shaw & Williams m and d.....	
Ford River Lumber Co m and d (Chicago)	Ford River
Smith & Kelley m and d (Au Sable).....	Forester
Dwyer Geo G s m.....	Frankfort
Hubbell & Wakefield p m.....	
Hileman & Hessen m and d.....	Freeport
Fruitport Mfg Co m and d.....	Fruitport
Gage Joseph m and d.....	Gagetown
Lloyd & McNair m and d.....	Gaines Station
Sayers Bros m and d.....	
Blakeslee Geo A m and d.....	Galien
Ca le H E m and d.....	Girard
Batchelor Slatt & Co m and d.....	Grand Haven
Bigelow & Stone.....	
Cutler D m and d.....	
Dirk & Barker m and d.....	
Eastman Galen m and d.....	
Ferry & Bro m and d.....	
Gibson James.....	
Monroe & Howlett m and d.....	
Reynolds & Emlay.....	
Rysdorf & Busch m and d.....	
Stows C L.....	
Wyman Buswell & Co.....	
Bradley H Rose p m.....	Grand Ledger
Lamson Edmund m and d.....	
Russell E s m.....	
Barnhart & Osterhaut m and d.....	Grand Rapid
Borden A D & Co p m.....	
Clancey John.....	
Clark G B & Co sash doors etc.....	
Comstock C C m and d.....	
Crossette Graves & Co m and d.....	
Cutcheon L M.....	
Cutler Robt.....	
DeGraaf Vrieling & Co sash doors etc.....	
Farrin & Ca.....	
Knight Geo L & Co m and d.....	
Krum Foster & Co p m.....	
Long A B & Sons m and d.....	
Lore R W staves.....	
McElmer J G m and d (Lockwood).....	
Mackey Walker & Co lath mill (Chicago)	
Nichols & Co p m.....	
Norton A F & Co.....	
Pardee Cook & Bro m and d.....	
Pew G H p m.....	
Powers W H p m.....	
Powers W T & Son.....	
Putnum Enos.....	
Quimby J L.....	
Roberts A & Son.....	
Robinson S & Co p m.....	
Ryan Young & Co m and d.....	
Ward E F & Co.....	
Webster A & Co p m.....	
Wheeler Ruben sash doors etc.....	Grand Rapid
Wilkins & Bachman p m.....	
Withey L H & Co m and d.....	
Wonderly Lumber Co m and d.....	
Dewory E m and d.....	Grandville
Jennison H.....	
Belknap & Oliver sash doors etc.....	Greenville
Clark & Rhinesmith Lumbering Co.....	
Fuller & Gowan m and d.....	
Hart Henry m and d.....	
Hutchings S G.....	
Jenks C C s m.....	
Wright Bros.....	
Pardee Cook & Blanchard m and d (A Par. dee & Co New York).....	Hamlin
McRoberts A m and d (Bay City).....	Hampton
Backus A J m and d (Backus & Bro De- troit).....	Harrisville
Westons Colwell & Co m and d.....	
Hill's W m and d.....	Hart
Allen & Crook m and d.....	Hartford
Hinckley Bros staves.....	
Olds & Crandal sash doors etc.....	
Walker s m.....	
Bentley J W & C G sash doors etc.....	Hastings
Hortin & Jacobs m and d.....	Hazleton
Kellogg & Sawyer m and d.....	Heath
Starker D F s m.....	Hemlock
Blodgett D A m and d.....	Hersey
Gerrish Murphy & Co m and d.....	
Sutton & Fisher d.....	Hillsdale
Ferris R B m and d.....	Holland
Vanderveer E & Co staves and shingle mill.	
Buzzell Bros sash doors etc.....	Holly
David Robt A m and d.....	Hopkins
Hillard L m and d.....	
Chubb J F s m.....	Howard City
Lord & Kipp s m.....	
Morgan & Quick m and d.....	
Mason & Reed.....	
Barnard J F & Co.....	Howell
Blood E & Co.....	
Wright J W sash doors etc.....	
Bates Gould & Gorham s m.....	Ionia
Colby E & Co m and d.....	
Stanton & Son m and d.....	
Webber Bros m and d.....	
Bennett & Woods.....	Jackson
Brooks C F d (Detroit).....	
Baxter & Selfridge p m.....	Jonesville
Bixby Bros & Flagg d.....	Kalamazoo
Dewing & Son m and d.....	
Kellogg J E & Haltenhaus m and d.....	
Sweetland & Co.....	
Tyler & Turner p m.....	
Buskirk & Dennison m and d.....	Kalkaska
Ballou Gustin & Co m and d.....	Kawkawlin
Wade & Pettys m and d.....	Lake Port
Ciley Bros & Co sash doors etc.....	Lamont
Bellows W D & Bro m and d.....	Langston
Briggs N H.....	
Briggs Z E.....	
Crawford & Co m and d.....	
Norton J D.....	
Sprague R F.....	
Wilcox & Briggs m and d.....	
Allen & Wise sash doors etc.....	Lansing
Clark & Harris m and d.....	
Longstreet & Lapham p m.....	
Ottis & Son d.....	
Scoffeld S G m and d.....	
Walker Gilman & Co sash doors etc.....	
Hughes & Bro m and d.....	Lapeer
Dodge C T m and d.....	
Hemingway C M & Co p m.....	
Johnston Alex m and d.....	
King Robt m and d.....	
Millis J D & Son.....	
Peters F J s m.....	
Stevens Currier & Townsend m and d.....	
Walker Bros m and d.....	
Powell Hauck & Bro m and d.....	Lawton
Fray H P staves.....	Lealie
Grout V H p m.....	
Russell S O.....	



Moss Mills & Galge m and d.....	Lexington	Crittenden Chas d.....	Mt. Clemens
Nims Tewksbury & Co m and d.....		Hall & Shook m and d.....	
Woods J L m and d.....		Snook Bush & Mosler m and d.....	
French Wyman & Co m and d.....	Lockwood	Snook T W staves.....	
King Quick & Co m and d.....	Lowell	Tucker E J m and d.....	
Mason & Ecker p m.....		Hughes Bros m and d.....	Mt. Morris
Wooding & Hine m and d.....		Look Asher p m.....	
Donaher & Melendy m and d.....	Ludington	Weeks Huntoon & Co m and d.....	
Foster & Stanchfield m and d.....		Fancher & Brazee m and d.....	Mt. Pleasant
Pere Marquette Lumber Co m and d.....		Abbey French & Co m and d.....	Muir
Roby Geo W & Co m and d.....		Begole J & Co m and d.....	
Ward E B m and d (Detroit).....		Hayes Bros.....	
Niblack & Sage m and d.....	Macon	Hewitt W P s m.....	
Spafford & Conklin m and d.....	Manchester	Rumsey C Jr.....	
Butters Horace m and d.....	Manistee	Wager & Fox m and d.....	
Canfield & Wheeler m and d.....		Wager & Whittman m and d.....	
Cushman Calkins & Co m and d (Chicago).....		Willett A M & J W p m.....	
Dennett & Dunham m and d.....		Allen A M m and d.....	Muskegon
Engleman Salling & Babcock m and d (Milwaukee).....		Beidler Mfg Co m and d.....	
Filer & Sons m and d (Milwaukee).....		Bigelow W H & Co m and d.....	
Giffith Buddock & Co m and d.....		Blodgett & Byrne m and d.....	
Hopkins Bros & Wise m and d.....		Browne Nelson & Co m and d.....	
Leitch Neil m and d.....		Chapin & Foss m and d (Chicago).....	
Magill & Canfield m and d.....		Davis Chauncey & Co m and d.....	
Diller M F m and d.....		Easton Robt s p.....	
Pageot & Thorsen m and d (Stronach Lumber Co).....		Gluc W & Co m and d.....	
Peters R G & Co m and d.....		Hall S C.....	
Reitz Bros m and d.....		Kelley Wood & Co m and d (Chicago).....	
Sands Louis m and d.....		Mann A V & Co m and d.....	
Sibben S p m.....		Mason Lumber Co m and d.....	
Tabor & Huennekens m and d.....		Merrill J D & E W s m.....	
Tyson Sweet & Co m and d.....		Merrill & Palmer m and d (Detroit).....	
Seaman Warren m and d.....	Mantou	Montague O S & Co p m.....	
Jones R m and d.....	Maple Rapids	Morrison & Flemming m and d.....	
Gallinger Adams m and d.....	Marathon	Newaygo Co m and d.....	
Cobb J & Co staves.....	Marcellus	Outhwait G T.....	
Hunt A S m and d.....		Roberts & Hull m and d (Chicago).....	
Baird W m and d.....	Marine City	Rutherford W & Co m and d (Chicago).....	
McElroy C m and d.....		Ryerson Hills & Co m and d (Chicago).....	
Silvernall & Trumbull m and d.....		Sandford S R.....	
Decker Chas m and d.....	Marion	Storrs & McDougal m and d.....	
Stevenson W M m and d.....		Torrent Egan m and d.....	
Alexander M J m and d.....	Marshall	Torrent John m and d.....	
Church Nelson m and d.....		Torrent & Arms m and d.....	
Bunce H E m and d.....	Marysville	Truedell Gideon m and d.....	
Mills N & B m and d.....		White Smith & Swan m and d (Chicago).....	
Sanborn W m and d.....		Wilcox T B & Co m and d (Chicago).....	
Darrow & Walker m and d.....	Mason	Wilson & Boyce m and d.....	
Huntington J L & C D m and d.....		Kirtland & Son staves.....	Nashville
Willitt J m and d.....		Olds A W & Co m and d.....	
Peacock R m and d.....	Masonville	Baker W m and d.....	New Baltimore
Brown & Lacy m and d and sash doors etc. Matherton		Francisco & Bro staves.....	Newport
Lance & Jones sash doors etc.....		Johnson W S d.....	Niles
Mather Asaph & Vernon m and d.....		Tuttle Jos S d.....	
Dysinger D m and d.....	Memphis	Bently W m and d.....	North Branch
Mansfield J & Co m and d.....		Moyer A m and d.....	
Bagley & Copps p m.....	Menomonee	Lawrence Sidney m and.....	Nunica
Paison A p m.....		Converse & Wickham staves.....	Oakley
Stephenson Robt & m and d.....		Peck & Sackridge m and d.....	
Wright & Tweedle p m.....		Baser J m and d.....	Ogden Center
Larkin John m and d.....	Midland	Hodges J S m and d.....	
Lindsay & Gamble m and d (Detroit).....		King T m and d.....	
Sias John m and d.....		Hall Hiram m and d.....	Orleans
Carman & Tone m and d.....	Millbrook	Smith Kelly & Dwight m and d.....	Oscoda
Howd Walter S m and d.....		Richardson Avery & Co m and d (Alpena).....	Ossineke
Randall W & Bro m and d.....	Millburg	Robinson Cunningham Haines & Co m & d.....	
Beck C F.....	Monroe	Ballou & Co sash doors etc.....	Otsego
Eisenman F A sash doors etc.....		Leighton S m and d.....	
Noble W A.....		Benson C B m and d.....	Otter Lake
Root & Stevens sash doors etc.....		Frisbie A H m and d.....	Ovid
Scranton J P.....		Sowers Geo D & Co m and d.....	Owosso
Shaub Phillip.....		Robinson & Miller p m.....	
Terry M G.....	Montague	Woodward L E.....	
Dowling H P & Co p m.....		Freeman G W & Co m and d.....	Palmyra
Ferry Dowling & Co m and d.....		Bathwick & Stevens m and d.....	Pavillion
White F H & Co m and d.....		Sager John m and d.....	
Weston Bros m and d.....	Monterey	Everett J C sash doors etc.....	Paw Paw
Moore & Ferguson m and d.....	Morley	Freeman & Stinson m and d.....	
Cook Pendleton & Jones s m.....		Brown S A & Co m and d.....	Pentwater
Cummer J & Son m and d.....		Nickerson & Calester m and d.....	
Gerrish E W.....		Sands & Maxwell s m.....	
Hugh W p m.....	Moscow	Stringer Frank m and d.....	Perrinsville
Fowle Benj m and.....		Huckley John m and d.....	Perry
		Woodworth W H m and d.....	Pewamo
		Cone & Cutter m and d.....	Pierson

McConnell W & Sons m and d.....	Pierson	Green D W.....	St. Charles
Pangham & Borden m and d.....		Kimberley C S.....	
Quincy & Bromley sm.....		Guerny Chas.....	St Claire
Stone & Seeley m and d.....		Jenks B W.....	
Taylor & McMullen m and d (Wood Lake).....		Pew T & F.....	St Joseph
Walter & Bro m and d.....		Holcomb & Evans m and d.....	St Louis
Wensel & Bro sm.....		Brooks & Adams m and d (Detroit).....	Salzburg
Keeler S S & Co m and d.....	Pigeon Creek	Laderach Bros m and d.....	
Adams F E & Co m and d.....	Pine Grove Mills	Malone & Gardiner m and d.....	
Clements S N m and d.....		Root Bros sm.....	
Everest & Wise m and d.....		Smith C M & Co m and d.....	
Paris P G m and d.....	Pine Plains	Thompson Wm m and d.....	Sand Creek
Paris S A m and d.....		Avery O W m and d.....	Sand Lake
Lantz John m and d.....	Pine River	Baird & Farnum sm.....	
Wood & Maxon m and d.....	Pittsford	Beaver, Miller & Co m and d (Pt Wayne Ind).....	
Richardson J C m and d.....	Plainfield Kent Co	Carr J M m and d (Union City Ind).....	
Topping M & Sons m and d and staves.....	Plainsfield Livingston Co	Dickinson Jerome m and d.....	
Bennett C H.....	Plymouth	Hafley P sm.....	
Ward David m and d.....	Pontiac	Hart M & S m and d.....	
Ayers Learned & Co m and d.....	Port Austin	Heilmer Geo W sm.....	
Haskells & Spaulding m and d.....	Port Crescent	Pangborn & Borden sm.....	
Wood J L & Co m and d.....		Roberts & Briggs m and d (Grand Rapids)	
Avery & Murphy m and d.....	Port Huron	Stone & Seeley m and d.....	
Batchelor J F & Son m and d.....		Twichell C R.....	
Bunce Z W & Son m and d.....		Ware E & Co.....	
Fish A & H m and d.....		Wilkins W L m and d.....	
Harrington D B m and d.....		Mercer & Slater m and d.....	Saranac
Haynes J m and d.....		Moffat A J m and d.....	
Hibbard W B & Co m and d.....		Moore H D m and d.....	Saugatuck
Howard & Son m and d.....		The Saugatuck Lumber Co m and d.....	
Jenkinson W staves.....		Abbott Chas m and d.....	Scio Township
Johnston John & Co m and d.....		Bathwick & Stephens m and d.....	Scott
Sauborn & Co m and d.....		Collingham J m and d.....	Sebewa
Skinner T S m and d.....		Friend J m and d.....	
Skinner & Ames m and d.....		Ambruster & Weimer m and d.....	Sebewaing
Wells F L.....		Dunn J & Sons m and d.....	Seville
Bergen P P staves.....	Portland	Blanchard J C & Co m and d.....	Sheridan
Bowser, Griffin & Co sash doors etc.....		Fargo D F & Co m and d.....	
Dilley J staves.....		Stearns J D m and d.....	Smyrna
Erskine E J m and d.....	Port Sanilac	Beckwith & Co.....	South Bay City
Thompson T & J S m and d.....		Braddock A C & Co pm.....	
Prentiss Geo H m and d (Detroit).....	Prentiss Bay	Dunham & Whipple.....	
Quimby J L m and d.....	Quimby	Miller A & Co m and d.....	
Alden, Sutton & Co staves.....	Quincy	Stevens A & Co m and d.....	
Hawley Martin.....		Watrous Bros & Co sm.....	
Wilbur R W m and d.....		Watrous M & Son m and d.....	
Exelby Jesse m and d.....	Ridgeway	Byer G W & Co m and d.....	South Haven
Fritz F m and d.....	Riga	Wilson S P m and d.....	
Paek, Jenks & Co m and d.....	Rock Falls	Ann Arbor Lumber Co m and d.....	South Saginaw
French Geo m and d.....	Rockford	Briggs & Co sm.....	
Porter Dennis m and d.....		Bundy & Martindale sm.....	
Mollitor A & Co m and d.....	Rogers City	Bundy & Yeoman m and d.....	
Ayet A B m and d.....	Romeo	Curtis & Eastbrook m and d.....	
Andre Alex.....	Saginaw City	Boice & Kearny m and d.....	Spring Lake
Arnold & Fulson (Albany N Y).....		Outler & Savidge m and d.....	
Barnard & Binder m and d.....		Marada & Maxwell m and d.....	
Blanchard C N m and d.....		Monroe Boyce & Co m and d.....	
Burnham, Still & Co.....		Sisson & Seymour m and d.....	
Butman Myron.....		Cross, Wright & Co m and d.....	Standish
Butman & Rust.....		Bennett J E m and d.....	Stanton
Chapin A B & Bro.....		Hock Wm m and d.....	
Curtis L B.....		Burham & Wales sm.....	
Gould E F.....		Case G F sm.....	
Green & Harding.....		Gardner D M sm.....	
Hardin & Babcock pm.....		Gilbert A m and d.....	
Heather & Allison m and d.....		Stevens W H m and d.....	
Jerome T & Co.....		Turner Bros & Co sm.....	
Ketchum D B sm.....		Wells & Patchin sm.....	
Nester Bros.....		Withey & Buckaloo m and d.....	
Newton & Smith.....		Wood & Gilbert m and d.....	
Payne A B & Co m and d.....		Francisco & Marcy m and d.....	Stanwood
Potts & Prieur.....		Stephens, Mellen & Tackles m and d.....	Stephens P O
Rust Amasa.....		Stonach Lumber Co m and d.....	Stonach
Rust Eaton & Co.....		Johnson, Packard & Austin m and d.....	Sturgis
Rust & Hay.....		Wallace Z H & J S sash doors etc.....	
Startevant, Green & Co m and d.....		Harris Myron m and d.....	Talmadge
Swift & Lockwood m and d.....		Cameron J C & Co m and d.....	Tawas City
Williams Geo F & Co m and d.....		Laidlaw James m and d.....	
Wright, Tipton & Co m and d and pm.....		Schram E L sm.....	
Wright & Wetherell m and d.....		Aldrich J A m and d.....	Tekonsha
Wille Bros sm.....		Mc Cann Thos m and d.....	Three Oaks
Bentley H J m and d.....	St Charles	Brownell & Dexter m and d.....	Three Rivers
Campbell D J.....		Crossett & Pugh m and d.....	
Freeman & Co.....		Jackson Geo A & Co m and d.....	

Wilcox, Arnold & Co m and d.....	Three Rivers	Alley J & Co m and d.....	Whitehat
Stone & Shirts m and d.....	Trent P O	Bowen A B & Co 'm and d.....	
Whitney Bros m and d.....		Cone & Green m and d.....	
Barton D m and d.....	Tryone	Cook John P & Son m and d.....	
Patterson Jas m and d.....		Cook Leitch & Co m and d.....	
Stone A T m and d.....		Dalton & Bro m and d.....	
Tucker John B m and d.....	Union City	Farnum H T m and d.....	
North T & J E m and d.....	Vassar	Franklin G W m and d.....	
Martin H R m and d.....	Vermontville	Heald Avery & Co m and d.....	
Squler M L m and d.....		Hedges & Green m and d.....	
Perry E m and d.....	Vernon Isabella Co	Johnson & Hageman s m.....	
Bell & Starkey m and d.....	Vernon Shiawassa Co	Staples & Covell m and d.....	
Brand J C staves.....		Weston Bros m and d.....	
Sayers Bros m and d.....		Luscomb & Pierce m and d (Milwaukee).....	White River
Martin, Mc Allister & Lawton m and d.....	Verona	Campbell & Co m and d.....	White Rock
Puddock & Ballantine m and d.....		Haviland J B & Co m and d.....	Whitewater
Heart Wm A m and d.....	Wahjameja	Schofield & Rickerd m and d.....	
Goodrich Enos m and d.....	Watertown	Wixom & Sibley m and d.....	Wixom
Sutherland J m and d.....	Watervleit	White B m and d.....	Woodbridge
Curtis & Walker m and d.....	Wayne	Taylor & McMullen m and d.....	Wood Lake
Arnold & Catlin p m.....	Wenona	Shafter David G m and d.....	Worth P O
Litchfield E C m and d (New York City).....		Fullmore & Scovill m and d.....	Ypsilanti
Sage H W & Co m and d (New York City).....		Parsons Bros d.....	
Hetfield & Fluter m and d.....	Wheeler	Burt W R & Co m and d.....	Zilwaukee
Peck & Beckenridge m and d.....		Bless A T & Bros m and d.....	
Dawson Geo m and d.....	Sault de St. Maria P O	New York & Michigan Lumber Co.....	
Norris & Perry m and d.....		Rust Eaton & Co m and d.....	
Seymour Henry W m and d.....			

## CHICAGO.

Adams & Lord, d 368 Lumber street.....	Chicago	Gardiner John D & Co m and d 520 Lumber.....	Chicago
Allen & Bartlett d Ladins of West 22d.....		Gifford Ruddock & Co m and d room 7, 242	
Avery Murphy & Co d s w cor Fisk.....		S Water.....	
Avery Thos M d Canal n w cor Fulton.....		Goss & Phillips Mfg Co m and d Clarks w	
Barton & Jones d Lumber cor 12th.....		cor 12th.....	
Babeock W S d 400 Lumber.....		Goldie W d Eighteenth s e cor Canal.....	
Basse & Bruse d Elston av n e cor W Division.....		Goodman J B & Co d Room 1 261 Randolph	
Batcheller & Slaughter d Throop st cor 22d.....		Goodman W d 250 S Water.....	
Bateson Alex d 347 Archer av.....		Goodrich W H d 84 Market.....	
Beldler J & Bro d Loomis cor 22d.....		Gray A R & Co m and d 22d cor Throop.....	
Benton Geo C d Union s w cor 22d.....		Graves D F d Throop n 22d.....	
Bigelow Bros d Fisk n 22d.....		Gunderson Senit T m and d 238 S Water.....	
Bishop & Lull d Throop n 22d.....		Grusendorf & Mueller d foot of Lesing.....	
Boardman Packard & Co d 94 Lumber st.....		Hannah Lay & Co d 76 and 78 Lumber.....	
Bradley Shepard & Smith d 732 Clark st.....		Hannah Lyman & Co d 89 Main.....	
Burdick & Mead W 22d cor Blue Island av.....		Hartman & Graham d 238 S Water.....	
Bush & Hill m and d 242 S Water st.....		Harvey T W d Morgan cor 22d.....	
Bushnell, Walworth & Reed m and d 562		Hatch Holbrook & Co d 265 Archer av.....	
Lumber st.....		Hempstead & Beebe d 14 Chicago av.....	
Galkins & Fisher d 213 Archer av.....		Higbee Chas E d 242 S Water.....	
Chapin & Foss d 214 S Canal st.....		Billard Churchill & Co d Cologne cor Joseph	
Charnley Bros & Co m and d 238 S Water st		Hipple & Lestmann d 61 Hawthorne av.....	
Chicago Lumber Co m and d 242 S Water st		Holt Balcom & King m and d (Oconto Wis)	
Crumb Bros d Division cor Elston av.....		246 S Water.....	
Chase & Pate d 511 Archer av.....		Houghteling W D & Co m and d 250 S Wa-	
Clark Saml D d 70 LaSalle st.....		ter.....	
Combs Park & Co 22d st cor May.....		Holmes & Co d 83 Grove.....	
Curtis & Skinner d 96 N Canal st.....		Holden H N d Market s e cor Jackson.....	
Cutler Savage & Co m and d 236 S Water st		Horn W H d 234 S Water.....	
Davis & Mason m and d 236 S Water st.....		Hubbard & Wood d 236 S Water.....	
Davis & Murray d 451 Archer av.....		Hutt & Johnson d E Grove N 20th.....	
Dean Bros d Fisks of 22d.....		Irish Buellen & Co d 234 S Water.....	
Derickson & Sons d Ladlin cor W 22d.....		Jones D H & Co m and d Room 16, 242 S	
Dodge E J & Bro d 111 W 12th.....		Water.....	
Driscoll P F d Halsted.....		Jenkins & Murphy d 22d cor Ladlin.....	
Egleston Hazelton & Co m and d 236 S Wa-		Johnson A B d 143 Kingsbury.....	
ter.....		Kelley Wood & Co 22d s e cor Center av.....	
Elder Fred d North Branch cor Division.....		Ketchum Stephens & Co d 258 Sherman.....	
Eldred E & Co d Polk s e cor Beach.....		Learned S J d Center av s of 22d.....	
Elkins & Cook d 381 Lumber.....		Long J Henry d 904 S Halsted.....	
Esserger B Beach and Canal.....		Loomis & Davis d 394 Fifth av and Fisk.....	
Fauntleroy & Co d 22d s e cor Morgan.....		Leveland R A & Co d Lumber cor of 22d.....	
Ferry & Bro m and d w end 18th st bridge		Loveland & Spencer d 22d cor Lumber.....	
Fisher C C d 514 Lumber.....		Lowell & Barker d foot of Fisk.....	
Fisher John & Sons d Robert w end of Hu-		LUDINGTON WELLS & VAN SCHAICK m and d	
ron.....		offices 244 S Water, yards Loomis N 22d and	
Ford River Lumber Co m and d office 242 S		I C R.....	
Water yard W Throop s of 22d.....		McLaren d cor Franklin and S Water.....	
Foster Thos d 15 W 22d.....		McDonald & Roe d Taylor s w cor Sher-	
Fxo & Howard d Ashland av cor Hickory.....		man.....	
Franz L & Son d 24th n e cor Butler.....		McMullen & Officer d Throop s w cor	
Garden City Mfg Co d 22d cor Morgan.....		Lumber.....	
		Martin S K d 498 Lumber.....	

Mears Bates & Co m and d 82 Beach.....Chicago  
 Mears C & Co m and d 58 Kingsbury.....  
 Mendson & Winter d W Throop s of 22d.....  
 Menominee River Lumber Co m and d office  
 2 0 S Water.....  
 Merrill & Skeele d 845 Lumber.....  
 Meyer C J L d 25 W Ohio.....  
 Minard Ira & Co d Loomis N 22d.....  
 Munro Robbins & Co d W 12th cor Lumber..  
 Nel-on Bros d Grove n w cor 22d.....  
 N Ludington Co m and d office 242 S Water  
 Noble & Little d Canal n w cor Carroll av..  
 Norris Lumber Co d 165 W 22d.....  
 North Branch Lumber Co d 4) Front.....  
 Palmer Fuller & Co d W 22d cor Union.....  
 Park & Soper d 775 S Canal.....  
 Pearson, J N d 60 Lumber.....  
 Perry Pearson & Co d S end Sherman N  
 12th.....  
 Peshtigo Co m and d N Water N pier.....  
 Phillips & Browne m and d Room 2 238 S  
 Water.....  
 Pillsbury Bradley & Co d Main n e cor Co-  
 logne.....  
 Pond & Soper d W 22d cor Loomis.....  
 Porter & Co m and d Room 1, 261 Randolph  
 Porter & Fuller d 140 Beach.....  
 Queal Robt F & Co d Throop s of T22d.....  
 Richards Norris & Co d W 22d cor Laffin...  
 Rietz Chas & Bro d 27 N Canal.....  
 Roberts & Hull m and d 245 S Water.....  
 Robinson Geo G & Co d Hawthorne av n of  
 gas works.....  
 Ryerson Martin & Co m and d Room 4 242  
 South Water.....  
 Ryan Young & Co m and d 236 S Water.....  
 Sawyer S W d 133 LaSalle.....  
 Schuenburg & Boeckler m and d Main  
 cor Cologne.....  
 Spalding Jesse m and d 250 S Water.....  
 Sheriffs John & Son d Beach cor Thylor...  
 Shoemaker & Howell d Troop N 22d.....  
 Soper Brainard & Co d Polk cor Beach.....  
 South Branch Lumber Co d 22d cor Loomis  
 Starrett & Bro d W 12th s w cor Lumber...  
 Stephens & Clarke Archer av cor Quarry...  
 Stevens Plowden d 924 S Halsted.....  
 Street & Chatfield d Rocket w end of Huron  
 Terry & Bro d w end 18th st bridge.....  
 The B L Anderson Co m and d Fisk cor 22d

The Kirby Carpenter Co m and d Loomis nr  
 22d.....Chicago  
 Thompson H & Co d Quarry bet Archer av  
 and the river.....  
 Truesdell Gideon Room 6 242 S Water.....  
 Turner E H & J S d 84 and 86 Lumber.....  
 Waldo John d 120 N Canal.....  
 Waldo Waters & Co d 7 N Canal.....  
 Walkup & Neebes d 361 Lumber.....  
 Washburn Edgar d 195 8th.....  
 Weed A & Co W Chicago av.....  
 Wilce Stephens & Co p m 22d and Troop...  
 White Swan & Co m and d 252 S Water...  
 Whitbeck H Company m and d 257 W 22d  
 head of Fisk.....  
 Whitcomb R S d 714 W Washington.....  
 Wheelock Sylvester d foot of Fisk.....  
 White Geo E d 122 N Sangamon.....  
 White Joseph d 126 N Union.....  
 White Rowell & Co d 34 W Chicago av.....  
 Wolf Kauf & Esroger d Sebor bet Canal and  
 Beach.....  
 Woodruff W N & J F d Grove foot of 19th..

COMMISSION.

Barker Cyrus A 252 S Water.....  
 Bell Robt L Room 2, 252 S Water.....  
 Bickford R K & Co 240 S Water.....  
 Blanchard Borland & Co 242 S Water.....  
 Brown W Room 5, 242 S Water.....  
 Calkins W W Room 1, 238 S Water.....  
 Carter Artemas 240 S Water.....  
 Deming Chas & Co Room 3, 233 S Water...  
 Ewer & Aarhus 238 S Water.....  
 Frazer Jas Room 16, 242 S Water.....  
 Goodenow & Hinds 234 S Water.....  
 Irish Bullen & Co 234 S Water.....  
 Long John 238 S Water.....  
 Loomis John & Co 2 Franklin.....  
 Marsh & Goodrich 252 S Water.....  
 Meglade W Room 2, 238 S Water.....  
 Mueller W Room 5, 242 S Water.....  
 Prettyman W B 236 S Water.....  
 Rice Ed B Room 4, 252 S Water.....  
 Ripley W 238 S Water.....  
 Schulenburg Albert 234 S Water.....  
 Simpson Ruddock & Co 238 S W.....  
 Southworth W L 234 S Water.....  
 Williams Thomas 238 S Water.....

IOWA.

Steerwalt W d.....Abbott  
 Jarton & Co d.....Ackley  
 Rath John d.....  
 Beymer G W d.....Afton  
 Farnsworth D (hardwood saw mill)...Agency City  
 Parkinso B d.....Ainsworth  
 Gilbert, Hedge & Co d (Burlington Ia).....Albia  
 Patton U L d.....Albion  
 Taylor & Bro d.....Alden  
 Johnson W W d.....Algona  
 Putnam F L d.....  
 Wilson John & Co d.....  
 Chambers Bros & Co m and d (Muscatine  
 Ia).....Allerton  
 Madigan M d.....Altona  
 Lamb C & Son m and d (Clinton Ia).....Ames  
 Jones & Bradley (hardwood mill).....  
 Markham M A d.....  
 Benton W S d.....Anamosa  
 Blackburn John S (hardwood mill).....Arcola  
 Bower & Billmyer (hardwood mill).....Auburn  
 Bryant & Sharp (hardwood mill).....Augusta  
 Ainsworth & Waterman d.....Avoca  
 Ledwick T d.....  
 Goodhill & Bro d.....Bedford  
 McConville H & Co.....  
 Henry Jas P d.....Belle Plaine  
 Lamb & Son m and d (Clinton Ia).....  
 Wilson J D d, agent.....  
 Brown M R m and d.....Bellevue  
 Strasser & Schleck p m and d.....

Parker & Upton (hardwood mill).....Bertram  
 Wise J K d.....Blainstown  
 St John Jas d.....Bloomfield  
 Eutler & Meek p m.....Bonapart  
 Kerr, W B d (gent).....  
 Carr Chas W d.....Boone  
 Nowlin Bros d.....  
 Lloyd & Stickney d.....Brighton  
 Memer, John d.....  
 Burdick A (hardwood mill).....Bristol  
 Morris J W d.....Brook  
 Conklin & Newcomb d.....Brooklyn  
 Holmes T J & Son d.....  
 Small W E & Son d.....  
 Cass H d.....Buffalo  
 Schuh L & Co m and d.....  
 Cook W E & Co s m and m and d.....Burlington  
 Berry W S & Co m and d.....  
 Carson & Rand m and d.....  
 E D Rand & Co m and d.....  
 Dickie J & J m and d.....  
 Duncan & Hosford m and d.....  
 Gilbert, Hedge & Co d.....  
 Joy E & Co.....  
 Millard Frank & Co d.....  
 Nairn, Gillis & Co p m.....  
 Parsons F T & Co d.....  
 Winter D & Co p m.....  
 Seelye & Shaw d (McGregor Ia).....Calmar  
 Anthony & McLoskey m and d.....Camanche  
 Grafton W H (hardwood mill).....Cambridge



Green J L d.....	Carroll	Pelan & Randall m and d.....	Dubuque
Hatch & Wingate d.....	Casey	Robison J M m and d.....	
Whitmore E O & Co d.....		Weston Burch & Co m and d.....	
Ford & Zeising d.....	Cedar Fall	Wheeler & Warner d.....	Dunlap
Lamb, Bing & Co d.....		Dyer Henry d.....	Dyersville
Green & Rowley d.....	Cedar Rapids	Krapf A d.....	
Lamb C & Son m and d (Clinton Ia).....		Twogood C d.....	
Dyer d.....	Center Point	Brown Doty & Co d.....	Eagle Grove
Boyles & Co d.....	Centerville	Puckitt Daniel d.....	
Gilbert, Hedge & Co d (Burlington).....	Chariton	Getchell & Son d (Des Moines).....	Earlham
Andrews & Harrison, sash, doors, etc.....	Charles City	Harper Geo d.....	Earlville
Grimmels H, sash, doors, etc.....		McGavic E J & Bro d (Keokuk).....	Eddyville
Mitchell & Fletcher d.....		Sage E T & Co d.....	Eldon
Parker & Gennels p m.....		Hall & Conger d.....	Eldora
Smith, Stephen d.....	Chelsea	Dimond & Winden m and d.....	Elgin
Archer Jas d.....	Cherokee	Sutter Lewis & Co d.....	
Hixon & Fisher d.....		Froarque Daniel m and d.....	Elk River
Hobart & Snyder d.....		Tomblin D M d.....	Emerson
Hull J M & Son d.....	Chillicothe	Pond E G (hardwood mill).....	Emmitsburg
Osgood & Kimball d.....	Clarinda	Wilson J J & Co d.....	
Rucktaschel Geo d.....	Clayton	Hedges J S & Co d.....	Fairfax
Schumaker A & Co.....		Phipps J W d.....	
Woodford & Johnson d.....	Clear Lake	Doty N S d.....	Fairfield
Clinton Lumber Co m and d.....	Clinton	Rand E D & Co m and d (Burlington).....	
Curtis Bros & Co sash, doors etc.....		Whitmore Seth d.....	Farley
Joice & Smith sash, doors etc.....		Gabelman Fred d.....	Farmington
Lamb C & Son m and d.....		Lyman G F d.....	Fayette
Young W J & Co m and d.....		Duckworth Cook & Co m and d.....	Floris
Graves W H d.....	Colesburg	Blowers & Clark (hardwood mill).....	Forest City
White & Bedow.....		Shori N d.....	Ft. Atkinson
Baldwin & Maxwell d (Iowa Center).....	Colo	Brown H C d.....	Ft. Dodge
Hobbie & Bro d.....	Columbus Junction	Conway Owen d.....	
Hoyt & Burdick d.....	Conover	Keefe Plough & Co d.....	
Seely & Shaw McGregor Ia.....		Atlee Saml J & Co m and d.....	Fort Madison
Beymer A M & Co d.....	Corning	Gibbs E A d.....	
Johnson H L & Co.....		Kasten Chas d.....	
Waldon Allen d.....	Corydon	Inkman & Felix d.....	
Green Thos & Son d.....	Council Bluffs	Miller N B & Co.....	
Hammer Lewis d.....		Wilson John d.....	
Hoagland Geo T & Co d (Hannibal Mo).....		Blaufuss F d.....	Franklin Center
Young & Co d.....		Baelton A m and d.....	Fulton
Fleming W J d.....	Cresco	Frank J m and d.....	
Rand E D & Co m and d (Burlington Ia).....	Creston	Slipper John & Bro m and d.....	
Rand E D & Co m and d (Burlington Ia).....	Cromwell	Woodford & Wells d.....	Garnaville
Easton J S d.....	Dallas Center	Rinehart & Horton d.....	Gilman
Cable G W & H d.....	Davenport	Marsh & Lambert d.....	Glen Roy
Davis L S m and d.....		Tistleson O d.....	
Kirk F, sash, doors, etc.....		Mills & Atkins d.....	Glenwood
Lindsay, Phelps & Co m and d.....		Hankins & Ruggles d.....	Glidden
McClelland, T W sash, doors, etc.....		Park C B & Co d.....	Grand Junction
Price, Hornby & Kehoe m and d.....		Clark S H d.....	Grand Mound
Benwick Win m and d.....		Jansen C d.....	
Roberts & Rohrbach, sash doors etc.....		Barnum, Case & Co d.....	Green
Schrock & Mueller m and d.....		Craver & Steele d.....	Grinnel
Skinner W J d.....		Davis & Kelsey d.....	
Flemming W & J d (McGregor Ia).....	Decorah	Hobart Chas & Son d.....	
Atwood & Wolcott d.....	Delaware	Benson, P T d.....	Guthrie
Knowles J d.....	Delmar	Floete Chas d.....	Guttenbergh
Chandler M d.....		Goetz, Adam d.....	
Dupuis M d.....	Dennison	Luck B H d.....	
Wheeler & Warner d.....	Des Moines	Phelan & Zimmerman m and d.....	
Carver Young & Co d.....		Wikoff A H d.....	Hamburg
Collins & Shyrock d.....		Smith H J & A J d.....	Hampton
Getchell & Son d.....		Smith W P & Bro d.....	
Gilchrist J K & W H d.....		Lane & Hollister d.....	Honey Creek
Heath H R sash doors etc.....		Flusher A H hardwood mill.....	Horton
Sypher R W d.....		Eckhart Z d.....	Independence
Getchell & Son (Des Moines Ia).....	De Soto	Ingram, Kennedy & Day m and d (Dubuque Ia).....	
Buckley John d.....	De Witt	Kinyon S C d.....	
Butterfield Thos F & Co d.....		Newman S d.....	
Kettering & English p m.....		Stout Z & Co d.....	
Allen & Boss d.....	Dexter	Winnegar & Manny d.....	
Mark J G d.....		Zinn E d.....	
Elerich James d.....	Dowd's Station	Chase & Hube d.....	Ionia
Dow & Graves d.....	Dowville	Baldwin & Maxwell d.....	Towa Center
Lockman & Elliott d.....	Drakesville	Musser R & C d.....	Iowa City
Carr Austin & Co sash doors etc.....	Dubuque	Porter J W d.....	
Clarke & Scott m and d.....		Rittermeyer F X d.....	
Dubuque Lumber Co m and d.....		Carlton J H & Bro d.....	Iowa Falls
Iowa Lumber Co m and d.....		Hoag, Zeno d.....	
Ingram Kennedy & Day m and d.....		Richardson J C hardwood mill.....	
Knapp Stout & Co m and d.....		Yerger A d.....	Jefferson
Langworthy S M d.....		Moore & Hoyt m and d (Dubuque Lumb Co).....	Jessup
Lumbert E R & Co d.....		Taylor Thos d.....	
Lembeck H & Co sash doors etc.....			

Hayward d.....	Kellogg	Chambers Bros & Co m and d.....	Muscatine
Andrews J H d.....	Keokuk	Eckle & Patton d.....	
Hosmer & Baldwin m and d.....		Garlock John S d.....	
Mc Garvic & Co d.....		Hershey & Irvine m and d.....	
Magoun & Co d.....		Hoch E d.....	
Scroggs J W d.....		Kirk W T p m.....	
Tabor & Co m and d.....		Musser P M & Co m and d.....	
Well-, Felt & Spaulding m and d.....		Stine S G d.....	
Marshall Joshua m and d.....	Kirkville	Union Lumbering Co m and d.....	
Butterfield & Co d.....	Knoxville	Turner & Bellamy d.....	Nashua
Wadsworth Smith & Co hardwood mill.....	Lake Mills	Dillin C D d.....	Neola
Miller Sam'l d.....	Lamville	Lockridge W d.....	Nevada
Albert E T & Son d.....	Lansing	Gordon Burt & Weston d.....	Newell
Hemingway Barclay & Co d.....		Nicholson & Fowier d.....	
Johnston S B d.....		Swazey L T d.....	
Merrill & Smith m and e.....		McLaren & Meyer d.....	New Hampton
Klingaman & Felt d.....	La Porte City	Williams E d.....	New Hartford
Fleming & Bro d (McGregor Ia).....	Lawler	Kalbach Isaac & Son d (Oskaloosa).....	New Sharon
Fairley & Van Sant m and d.....	Le Claire	Atwater & Hoskins d.....	Newton
Fairchild R C d.....	Le Mars	Curtis & Manning d.....	
Naples & Alline d.....		Hanson A P d.....	
Staples Isaac m and d (Stillwater Minn).....		Eckert & Williams d.....	Northwood
Beymer A S d.....	Lenox	Brown T H d.....	Norway
Cole Warren Jr d.....	Leon	Harper W L d.....	
Fry Jacob hardwood mill.....	Libertyville	McGlathery T K d.....	Oelwein
Pancoast Joseph d.....		Sylvester F d.....	Ogden Station
Auracher G d.....	Lisbon	Wheelock & Adams d.....	
Smith P E d.....	Liscomb	Elwell John d.....	Onawa City
Schofield & Son hardwood mill.....	Little Sioux	Freeland & Cleghorn d.....	
Goreham & Pelton d.....	Lost Nation	Reder Theo hardwood mill.....	
Peterson Aug. d.....	Lowden	Spurr C E d.....	Ouslow
Barnum J H d.....	Lyon	Chute & Cotton d.....	Osage
Buffum G A d.....		George & Lizotte p m.....	
Disbrow M A d and sash doors etc.....		Harding G F hardwood mill.....	
Joyce & Smith m and d.....		Huntington & Griswold.....	
Langford C E d.....		Gilbert Hedge & Co d (Burlington).....	Osecola
Magill Chas H d.....		Rand E D & Co m and d (Burlington).....	
Stockwell Ira m and d.....		Kalbach Isaac & Son d.....	Oskaloosa
Daubenberger & Strauer m and d.....	McGregor	Leighton C d.....	
Fleming W & J m and d.....		Snyder & Duke p m.....	
Seeley & Phelps m and d.....		Wray W H d.....	
Buttles & Vernon d.....	Malcom	Flemming W & J m and d (McGregor Ia).....	Ossian
Moninger Ringland & Summers d.....	Malvern	Kiser J M d.....	Ottumwa
Place A D d.....		Millard J J & Co d.....	
Buckley G R d.....	Manchester	Thornburg d.....	
Dyer W d.....		Wilson J W d.....	Oxford
Manchester Manufacturing Co.....		Kettring A & Co hardwood mill.....	Palo
Bradley Geo T d.....	Maquoketa	Clarnock C d.....	Parkersburg
Calamer Stephen sash doors etc.....		McGavie E J & Bro d.....	Pella
Joiner Bros & Co d.....		Newport B F d.....	Perry
Shepardson J B d.....	Marble Rock	Dean E J d.....	Plainfield
Ketchum & Bro d.....	Marengo	Mores W H d.....	
Morrison A J d.....		Page L A d.....	Plymouth
Alexander J S d.....	Marion	Mott J S.....	Postville
Wood Geo F d.....		Fish & Hammond m and d.....	Prairie City
Cunningham D W d.....	Marshalltown	McGavie E J & Bro d.....	
Price A J & Co d.....		Steinbeck Silas d.....	Quarry
Rogers M L d.....		Bryson & Son d.....	Red Oak Junction
Woodworth & Son d.....		Clark J & Co d.....	
Ush Fostrier & Brewer d.....	Marysville	Rogers & Son d.....	
Lyman W H d (agent).....	Mason City	Allen W H & E T d.....	Ridgeway
Sprague M A d.....		Myers & Peck d.....	
Wilson & Herrick d.....		Emerson & Fay d.....	Rockford
Griffin B d.....	Masonville	Comstock D r d.....	Russell
Armentrout & Co d.....	Mechanicsville	Long E & H M m and d.....	Sabula
King W W d.....	Mediapolis	Risley & Day m and d.....	
Funk W O d.....	Melrose	Shaw D & Co m and d (Ean Claire Wis).....	
Merrill L & Bros d.....	Millville	Rhames John N d.....	St Ausgar
Gill M & Son d.....	Minburn	Howe W B d.....	Saylorsville
Brown & Gregory d.....	Mitchell	Reeves Bros d.....	Seuly Station
Kimball & Mitchell d.....	Mitchellville	Caughran J D d.....	Shelby
Martin S & Co d.....	Mona	Bradley S S d.....	Sheldon
Burdick E E d.....	Monticello	Lane H C d.....	
Smith Thos P & Bro d.....	Montour	Mykoff Jas d.....	
Ochiltree H M & Sons d.....	Morning Sun	Fairfield & Phillips d.....	Sheld Rock
Norwood D d.....	Moulton	Bryson & Son d.....	Shenandoah
Grove James d.....	Mount Pleasant	Riley & Grant d.....	Sibley
Ketchum L & Bro d.....		Schell Levi d.....	
Ludham Bros p m.....		Schuck D M d.....	
Rand & Kaster d.....		Brown & Yerger d.....	Sigourney
Schreiner T d.....		Hedges & Spaulding d.....	Sioux City
Boyd D L d.....	Mount Vernon	Rice H B d.....	
McClellan & Kirkpatrick m and d.....		Sanborn & Follett hardwood mill.....	
Wick J E d.....	Murray Station	Beermaker A d.....	Solon
		Anthony N B d.....	Stanwood

Munson T S & Co d.....	State Center	McCoughey & Co p m.....	Washington
Tuthill J W d.....	St Ambont Rock	Sheridan & Hardestz d.....	
Turner D W d.....	Storm Lake	Wilson & Wallace d.....	
Green S F d.....	Stuart	Allee & Lindley d.....	Waterloo
Slutz Theo d.....	Tama City	Ankenny & Lusch d.....	
Stuart C d.....	Union	Beck Newman & Bro.....	
Dennis & Averill d.....	Tipton	Cobb & Jones d.....	
Hall B A d.....	Traer	Cutler W H d.....	
Lumb C & Son m and d (Clinton Ia).....		Johnson H M d.....	
Culbertson John d.....		Moore M H & Co d.....	
Johnson Bros d.....		Boleker & Maas d.....	Waverly
McCormick Bros d.....		Fairfield C d.....	
Smith John d.....		Hunt & Holt d.....	
Hauser & Son d.....		Ewing J & Son d.....	Webster City
Mos-man Alex d.....		Worthington W S d.....	
De Wolf James d.....		Hoover B d.....	West Branch
Taylor J C & Bro m and d.....		Gordon A d.....	West Cedar Rapids
Cadle C F & W L d.....		Deemer J A d.....	West Liberty
Chalbourne A S d.....		Woodward Chas d.....	West Union
Stickney & Bros d.....		Woods Hall & Co d.....	Wheatland
Young & Son hardwood mill.....		Seidell & Co d.....	Winthrop
Avery Spangler & Co d.....		Bush E H d.....	Worthington
Denny J M & Co d.....		Paft D C stave factory.....	Yankee Settlement

## MINNESOTA.

Getchell, C. S. & Co., m and d.....	Afton	Page & Scott, m and d.....	Fergus Falls
Olds & Lord, m and d.....		Evans, E E & Co., m and d (St. Paul).....	Fish Lake
Pray, R. N., p. m.....		Baldwin, D. E., m and d.....	Forestville
Seagrass, Wm. P., d.....	Albert Lea	Henry, F., m and d.....	
Hicks, Wm. E., m and d.....	Alexandria	Mirns Bros.....	Glencoe
St. Paul Lumber Co., m and d (see St. Paul).....	Anoka	Tenney, L. H. & Co. d.....	Glyndon
Washburn, W. D. & Co., m and d (see Minneapolis).....		Pierce, L. E. d.....	Grand Meadow
Mower, Martin.....	Arcola	Dudley, John.....	Hastings
Saulter, E. A. D.....	Atwater	Hersey, Bean & Doe, m and d (Stillwater).....	
Richards, W. d.....	Austin	Herman, J., m and d.....	Henderson
Gordon & Cooley, m and d.....	Barnum	Garrett, J. M.....	Hokah
Essler & Bro., m and d.....	Beaver Falls	Johnson, Thomson & Bluck, saw and stave mill.....	Howard Lake
Weed & Colson, s. m.....		Smith & Gasper, d.....	Janesville
Ellsworth, D., d.....	Belle Plaine	Hormer, J. W. & Co., stave mill.....	
Meldal & Sunde, d.....	Benson	Wadleigh & Wilks, d.....	Kasson
Vogel, August, m and d.....		Carville & Norgren, m and d.....	Kingston
Brainard & Whitton, d.....	Blooming Prairie	Hall & Thompson, m and d.....	
Brainard Lumb. & M'fg Co. m and d.....	Braidard	Grannis, S. S. m and d.....	Lake City
Brown, H. A., d.....	Brownsdale	Harding, J. p. m.....	
Paul, John, m and d (La Crosse, Wis).....		Hersey, Bean & Doe, m and d (Stillwater).....	
Gilbert, O. S. d.....	Brownsville	Hulet & Norton, p. m.....	
Paul, John, m and d (La Crosse, Wis).....		Humphrey, H. d.....	Lake Crystal
Funk, John, d.....	Carver City	Russell, L. G. d.....	
Schrimpf, A. D.....		Coleman, C. L. m and d (La Crosse, Wis).....	Lanesboro
Grannis, S. S., m and d.....	Central Point	Paul, John, m and d (La Crosse, Wis).....	
Brown & Brockway, m and d.....	Champlin	Crocker Bros. & Lamereaux, m and d (Minneapolis).....	Lansing
Kenny, Chas., m and d.....	Chaska	Mc Call, M. d.....	
Nathan, Geo., Stave M'fg.....	Chisago City	Fifield, D. S. & Son.....	Le Roy
Laird, Norton & Co., m and d (Winona).....	Claremont	Davis, L. B.....	Le Sueur
Morrison, H. B.....	Clear Water	Paul & Stone, m and d.....	
Talbot & Smith, m and d.....	Cleveland	Butler, Chaucey.....	Litchfield
Warde Bros. & Runions.....	Cokato	Leavitt, S. W.....	
Pendergast & Chisley, m and d.....	Collingwood	Hill, E. G. & Bro. m and d.....	Little Falls
Lucas, Adam, m and d.....	Cordova	Sherman, W. L. d.....	Lyle
Weizell, F.....	Dayton	Dean, J. & Co. m and d (Minneapolis).....	Madelia
Perkins, Bro. & Co. m and d.....	Dedham	Faribault & Carney m and d.....	Manchester
Parslow, H. C.....	Delano	Beebe, R. W. d.....	Mankato
Frazie, R. L., m and d.....	Detroit Lake	Mc Mahill, Geo. d.....	
Gill, John, d.....	Dodge Center	Tisdale Bros. d.....	
Magee, D. T., d.....	Dover Center	Severance, C. E.....	Manterville
Howard, J. D., m and d.....	Duluth	Marsh & Kennedy m and d.....	Maple Plain
Munger & Gray, m and d.....		Bergman, A. m and d.....	Marine Mills
Patterson & Mc Quade, p. m.....		Sabin & Judd m and d.....	
Shaw & Ingalls.....		Walker, Judd & Veazie m and d.....	Marshall
Weiland H. & Bro., m and d.....		Langdon, N. B.....	Minneapolis
Archibald, J. S. & E. T., m and d.....	Dundas	Butler, L. & Co. m and d.....	
Hutchins, John, m and d.....		Chase, J.....	
Houlton & Nickerson, m and d.....	Elk River	Farnham & Lovejoy m and d.....	
Mills, E. P., m and d.....		Rollins, John.....	
Long, G., m and d.....	Elysian	Ross, J. R. sash, doors &c.....	
Dunn, E., d.....	Eyota	Gaines, Cook & Co. m and d.....	
Jackson & Russell, d.....		Wheaton, Reynolds & Co., sash, doors &c.....	
Robson, John, m and d (Winona).....		Ankenny, W. P. & Co. d.....	
Smith, R. R., d.....	Faribault	Bedford, Boyce & Baker m and d.....	
Sumner, Jesse, d.....		Clark, F. P. m and d.....	
Turner, J. A., m and d.....	Faxon	Copeland, Jesse & Son, p. m.....	
Walker, H., m and d.....		Crocker Bros. & Lamereaux m and d.....	
Goodsell & Bro., m and d.....	Fergus Falls		

Bray, Wilder, & Co. d.....	Minneapolis	Keller John M. m and d.....	St. Paul
Day, L. & Sons m and d.....		Evans E E & Co m and d.....	
Dean, Joseph & Co. m and d.....		Munch, Gustave m and d.....	
Eastman, Bovey & Co. m and d.....		Prince John L. m and d.....	
Eldred, W. H. s. m.....		De Cou & Co sash, doors etc	
Judd, W. S. m and d.....		Metter & Heritage m and d.....	St Peter
Langdon, R. B. & Co. p. m.....		Snyder, Damsen & Co m and d.....	
Morrison Bros. m and d.....		Mc Clure T C m and d.....	Sauk Center
Pettit, Robinson & Co. m and d.....		Boulter & Burget m and d.....	Sauk Rapids
Russell & Co. p. m.....		Wilder J A d.....	Shakopee
Smith, Parker & Co. p. m.....		Mirns T m and d.....	Silver Lake
Union Planing Mill Co. p. m.....		Harriman S m and d.....	Somerset
Wa hburn, W. D. & Co. m and d.....		Coleman C L m and d (La Crosse Wis)	Spring Valley
Ingalls Bros. d.....	Minneska	Paul John m and d (La Crosse Wis)	
Ingram, Kennedy & Co. m and d (Eau Claire, Wis.)		Bronson & Fulsom m and d.....	Stillwater
Hitter, F. m and d.....	Monticello	Hersey, Bean & Brown m and d.....	
Douglas, James d.....	Moorhead	Staples Isaac m and d.....	
Avery, Jas. T.....	Morris	Seymour, Sabine & Co m and d.....	
Adams, C. D., stave m'fg.....	Morristown	St Croix Lumber Co m and d.....	
Hechey & Son m and d.....		Proctor J S (Secy. St Croix B Co)	
Norton R M m and d.....		Matthews S logger.....	
Osterbant Jas m and d.....		Nelson C N logger.....	
Keen & Whitcomb.....	Nicollet	Tozer David logger.....	
Ames, Jesse & Son m and d.....	Northfield	Chalmers & McMillan.....	
Dwinnell E C sash, doors, etc.....		Durand E W.....	
Mann Chas W.....		Gaslin David.....	
Stewart S P m and d.....		Mc Kusick, Andersen & Co m and d.....	
Whittle & Curlaw m and d.....		Mower Martin.....	
Miller A M m and d.....	N P Junction	Schulenberg, Beckler & Co m and d.....	
Payne J M & Co m and d.....		Ellison, Smith & Co m and d.....	Taylor Falls
Munger Grey m and d.....	Oneota	Folsom W H C.....	
Phelps Bros m and d.....	Otsego	Fox P.....	
Frazie R L m and d.....	Otter Tail City	Mc Court J H.....	
Backus Bros.....	Owatonna	O'Brien John.....	
Crooker Bros & Lamereaux (Minneapolis).		Ingraham, Kennedy & Gill m and d (Eau Claire, Wis.)	Wabasha
Murray A G d.....		Smith Warren d.....	Waseca
Pine City Lumber Co m and d (St. Paul).	Pine City	Ell ot d.....	
Fife W W d.....	Prexton	Durr Peter.....	Waverly
Cogel & Betcher m and d.....	Red Wing	Halbrecht.....	
Daniels & Simmons.....		Cole & Laird d.....	Wells
Red Wing Mill Co m and d.....		Coleman C L m and d (La Crosse Wis)	Whalan
Buttle & Herrick p. m.....	Rochester	Hays W W.....	Willmar
Dodge W H d.....		Paulson John.....	
Gillman N F p. m.....		Robbins A B.....	
Laird, Norton & Co m and d (Winona).....		Gilliland Thos d.....	Windom
Robson John m and d (Winona).....		Hubbs Chas L d.....	
Martin S A m and d.....	Rush City	Coleman C A d.....	Winnebago City
Reiley, Short & Co m and d.....		Balcom J & H C.....	Winona
Taylor & Co m and d.....		Gage A W & Bro.....	
Fos-o p. m.....	Rushford	Horton & Hamilton d.....	
Parker G R (Agent) d.....		Knight, Bennett & Co m and d.....	
Bridgeman, Coleman m and d.....	St Cloud	Laird, Norton & Co m and d sash, doors &c	
Clark N P m and d.....		Langdon A sash, doors etc.....	
Cluck & Mc Clure m and d.....		Robson John m and d.....	
Dam F H sash, doors etc.....		Rose O sash, doors etc.....	
Lindsay G W m and d.....	St Francis	Tucker O C.....	
Woodbury D m and d.....		Youmans Bro & Hodgins m and d.....	
Valbrecht W & Bro m and d.....	St. Michael	Crooker Bros & Lamereaux m and d (Minneapolis).....	Worthington
St Paul Lumber Co m and d.....	St Paul	Sater I N d.....	
Taylor H J & Co m and d.....		Cham Jas sash, doors etc.....	Zumbrota
Anoka Lumber Co m and d.....		Hubbard, Wells Co & m and d.....	
Grant, Mc Caine & Co m and d.....			

MISSOURI.

Hill & Co.....	Alexandria	Bedford Bogarnus & Co p m and sash factory.....	Bloomfield
Neure F & Son.....		O'Neil Jas saw mill.....	Bolivar
Summers & Scoonover.....		Wilkinson Hiram saw mill.....	Boonsborough
Fielor Robt & Bro m and d.....	Altenburg	Jones B F d.....	Boonville
Schmidt Jacob m and d.....		Roberts & Lee d.....	
Weinhold Marton.....		Thro J E d.....	
Wyckoff & McFarland d.....	Appleton City	Elliott Lumber Co saw mill and d.....	Bourbon
Thompson J. C. Jr d.....	Arrow Rock	Eales T T d.....	Breckenridge
Garth H C d.....	Anville	Plumb & Co d.....	
Sparks W W d.....		Bethelm & Kerr d.....	Brookfield
Waterman J C & Co d (Maryville Mo).....	Barnard	Ryner J M d.....	
Phelagan Willis & Balding d.....	Belton	Matlack Geo & Co d (St Louis Mo).....	Brownsville
Scott Geo W & Co d.....		Moore Jas & Co d.....	
Haines Chas saw mill.....	Berger	Eno E B d.....	Brunswick
Hoehn Chas saw mill.....		Perry J O d.....	
Nelson & Smith saw mill.....	Bethany	Wilson Peter saw mill.....	Buffalo
Graham Jas saw mill.....	Big Creek	Rogers Francis d.....	Bunceton
Harlow Greenberry saw mill.....			



Pitcher Adams & Cathron saw mill.....	Burdett	Evans & Brierton saw mills.....	Hopewell
Warner & Son d.....	Butler	Waterman Goodsell & Bro d.....	Hopkins
Pigg D H d.....	Calhoun	Wiles S S d.....	Houstonia
James & Sappington saw mill.....	California	Stratton M saw mill.....	Humansville
Nischwitz C F d.....		Hurd C d.....	Huonessville
Ross Geo d.....		Brookings Jas B d.....	Huntsville
Matis John H d.....	Callao	Smothers & Taylor d.....	
Maupin & Elliott d.....	Camden Point	Gates & Anderson d.....	Independence
Steiger Bros d.....	Cameron	Shortridge John (agent).....	
Burns & Mabon p m.....	Canton	May Edwin and d.....	Ironton
Ellis Wm d.....		Lilly & Smith d.....	Janesport
Hampton John P d.....		Bush & Becker d.....	Jefferson City
Stapies Nelson p m.....		Eaton Henry d.....	
Morris James (agent) d.....	Cape Girardeau	Heinrich Agnes & Son d.....	
Crouch W S d.....	Carrollton	Wallendorf M saw mill.....	
McDonald W d.....	Carthage	Reding John S d.....	Joplin
Beebe H F d.....		Anderson James d.....	Kansas City
Fi-k & Haines saw mill.....		Chester Melville & Co d.....	
McCarthy & Gilbert d.....		Crawford & Crouse saw mill.....	
Moore Bros d.....		Deardorf L d.....	
Fisher Joseph, jr d.....	Cedar City	Dubock & Co d (Hannibal Mo).....	
Street & Bro d.....	Center Town	Leach & Hall d.....	
Robinson James & Co saw mill.....	Chamois	Lovejoy G W p m.....	
Frank J S d.....	Chillicothe	Ludwig Thos J p m.....	
Herne, Harriman & Waples d.....		Merrill J W d.....	
Williams R B & Co d.....		Temple Jas d.....	Kidder
Tooley & Jacobs d.....	Clarence	Hammond C G d.....	Kirksville
Hughes B D d.....	Clarkville	Sharp L R d.....	
Carpenter W H d.....	Clinton	Perkins G H d.....	Knob Noster
McAllister & Bowling d.....	Columbia	Cathers D B d.....	La Clede
Lehofner & Tegeler d.....	Cencordia	Quinsberry & Farmer d.....	La Grange
Morton J W saw mill.....	Corsicana	Irving & Co d.....	La Plate
Henderson Wm saw mill.....	Cuba	Wilson J S d (agent).....	Lathrop
Lacy Chas C d.....		Montgomery & Brock d.....	Lawson
Bradley W J saw mill.....	Dalton	Vaunton & Loop saw mill.....	Laynesville
De Lassus Placide d.....	De Lassus	Lingsviller John d.....	Lebanon
Vineyard Jas d.....		Smith & Appling saw mill.....	
Angle, Clarke & Co saw mill.....	Des Arc	Adams Isaac W & Co d.....	Lee's Summit
Burroughs R & Co d.....	De Sota	Collins & Anderson d.....	
Gillett & Gowen saw mill.....	De Witt	Ballard Patrick d.....	Lexington
Bowen John R, jr saw mill.....	Edina	Hale Robert & Bro d.....	
Sheppard Elijah saw mill.....	Egypt Mills	Marshall Ben d.....	
Tandy, Stearns & Dorsay, saw mill.....	Ellenorah	Waples A C d.....	Liberty
Elston E saw mill.....	Elston Station	De Forest & Co saw mill.....	Licking
Lang & Bro saw mill.....	Farmington	Jones & Granger saw mill.....	Lincoln
Douglass & Bro p m.....	Fredericktown	Carson Geo L d.....	Louisiana
Kennedy & Thompson p m.....		Dreyfus Hill & Co d.....	
Farmer & Jones d (Pleasant Hill Mo).....	Freeman	Eau Claire Lumber Co m and d (Eau Claire Wis).....	
Stanchfield L S saw mill.....	Gads Hill	Edison Nichols & Co (Clarksville).....	
Lester Eugene W saw mill.....	Gayose	Freeman & Co m and d.....	
Birch T E, jr d.....	Glasgow	Soward & Dyer p m.....	
Lewis C H d.....		Farrar & Bourk d.....	Macon City
Harrold John S saw mill.....	Glaze City	Graham F M & Co saw mill.....	Marquand
Simmons H D.....	Gower	Linn & Farrar saw mill.....	
Hope Geo D d.....	Greenfield	Whitener & Son saw mill.....	
Hope Geo D d.....	Greenwood	Wilkinson W J Jr saw mill.....	
Hines M O d.....	Hamilton	Coleman & Stagner d.....	Marshall
Reddie Geo d.....		Page C G d.....	
Allen & Knowll.....	Hannibal	Muster J S d.....	Martinsburg
Oonlon J.....		Tapscott A W d.....	
Cruikshanks John Jr d.....		Anderson & Bro d.....	Maryville
Davis Bockee & Garth.....		Waterman J C & Co d (Barnard).....	
Dorman Uriah.....		Goodale L N d.....	Meadville
Dubach D & Co.....		Marks Abe d.....	
Dulaney & McVeigh.....		Woodard & Co saw mill.....	Mendota
Hannibal Union Works sash doors etc.....		Coatsworth & Co d.....	Mexico
Hearne Herriman & Co.....		Meyer John J (St Louis).....	
Hibbert John V sash doors etc.....		Wright Josiah d.....	
Hixon G C & Co.....		Guthreys & Haynie d.....	Miami
Miller W H & Co p m.....		Hill M C saw mill.....	
Northwestern Lumber Co m and d (Eau Claire Wis).....		Stanley & Stickler d.....	Milan
Pinger Chas & Co d (St. Joseph Mo).....		Carter C C d.....	Missouri City
Price J B d.....		Firth Wm d.....	Mobery
Rowe & Tolle.....		Hassett Bros d.....	
Skinner & Co sash doors etc.....		Petering E H d.....	
Ure & Co.....		Porter W W & J B d.....	
Farmer & Jones d (Pleasant Hill Mo).....	Harrisonville	Mathew John L d.....	Monroe City
Rice John d.....	Hemetite	Davis W A & B saw mill.....	Monticello
Lang Geo d.....	Hermann	Kerr Wm d.....	Montrose
Hubbard E L d.....	Holden	Morgan P A saw mill.....	Morgan's Mills
McMillen Jas d.....		Bacon F M d.....	Mound City
Mills T M d.....		Barber & Herms saw mill.....	Neosho
Starkey & Christian d.....		Robinson James & Co sash, doors etc.....	
Cutter Morgan & Co saw mill.....	Holt Station	Carey saw mill.....	Nevada City

Cleland J W d.....	Nevada City	Boeckeler A & Co m and d.....	St. Louis
Southwick & Goodall d.....	New Cambria	Boeckenkamp & Surkamp, cor. 9th and	
Fitzhugh J S d.....	New Florence	Monroe sts. d.....	
Forrest R W d.....	Norborne	Lobsinger, Meegan & Co., Carondelet m	
Johns T R d.....	North Springfield	and d.....	
Kennedy & Druhe d.....		Clear Water Lumber Co m and d.....	
Raithel J G d.....		Fleitz & Ganahl, 1320 Jackson st. d.....	
Berry & Bros.....	Omaha	Methudy & Meyer, commission, 22 s.	
Petty J J saw mill.....		Main st.....	
Potter B T d.....	Oregon	Berthold & Jennings, commission, 28 s.	
Carter M S saw mill.....	Osage City	Main st.....	
Cerny & Vader saw mill.....		Beldemeier H W & Co Eastern av d.....	
Hollister & Co saw mill.....		Williams & Alford, commission, 100 s.	
Maxwell J B d and saw mill.....	Osage P O	Main st.....	
Hitt B M d.....	Osborn	Clement H S commission.....	
Armick J F d.....	Oterville	Cole & Glass p m.....	
Potter & Wharton saw mill.....		Cronkhite A H (Wisconsin River Lumber	
Haycox P S saw mill.....	Overton	Co Stevens Point Wis) St James Hotel...	
Williams H d.....	Pacific	Davitt John W d.....	
Kiser Wm B saw mill.....	Palmyra	Druhe W d.....	
Ross & Kennedy saw mill.....	Paradise	Dryden & Reid d.....	
Bower G M d.....	Paris	Hill Lemmon & Co m and d.....	
Wilson Wesley d.....		Hocker & Hengelsberg d.....	
Luthey Franklin d.....	Parkville	Holmes J A & Co d.....	
Harper & Ball d.....	Pendleton	Hymers Ed H d.....	
Killian J C saw mill.....	Perryville	Luthy Jas d.....	
Crist Bros d.....	Phelps City	McIlvain Robt d.....	
Barton J H d.....	Pierce City	Matlack Geo d.....	
Tribble Andrew d and saw mill.....	Platte City	Meyer John, Cass av d.....	
Hockaday J N & Son d.....	Plattsburg	Mincke G F d.....	
Stearns d.....		Mississippi Planing Mill Co (Jas Patrick	
Beegle & Meyers d.....	Pleasant Hill	Pres't).....	
Farmer & Jones d.....		Naber Chas d.....	
Hope Arthur d.....		Nuelle W & Bro m and d.....	
Boyce B F & Son sawmill.....	Point Pleasant	Olcott Duross & Co p m.....	
Barkley David saw mill.....	Potosi	Ripley Geo W & Co d.....	
Smith Chas D saw mill.....		Sterling John p m.....	
Smith W D & Bro saw mill.....		Wright J C & Co p m.....	
Walton & Co d.....		Yaeger H C South Main st commission...	
Cadle Henry d.....	Princeton	Hodges & Sons saw mill.....	Salem
Leeper John P d.....	Richmond	Wofford C P & Co saw mill.....	
Baughner E H saw mill.....	Richwoods	Thornton J saw mill.....	Saline City
Traub Geo & Co d.....	Rockport	Dulaney Thos G d.....	Salisbury
Cruesbour Chas d.....	Kolla	Wayland Ely d.....	
Rusell Giles saw mill.....	Russell's Mills	Young Geo saw mill.....	
Holrah & Machens d.....	St Charles	Waterman & Nast d.....	Savannah
Smith Job d.....	St James	Bleoss W & Co d.....	Sedalia
Thummell W G d.....		Gaus C H d.....	
DeClue John p m.....	St Joseph	Ritter Richard d.....	
Dougherty Ray & Co d.....		White & Meyer d.....	
Hamilton Bros saw mill.....		Warren W d.....	Shelbina
Hoagland Geo T & Son d.....		Ralph Jas d.....	Shelbyville
Lyon Geo d.....		McBride Jr C saw mill.....	Silver Lake
Pinger Chas & Co d.....		Hendricks & Co saw mill.....	South Point
Smith & Swope saw mill.....		Ganahl Fidel d.....	South St Louis
Waterman & Barnard d.....		Lobsinger Meegan & Co m and d.....	
Phillip Gruner, Jr., s. e. cor. of 9th st. and		Knott & See p m.....	Springfield
Cass Ave d.....	St. Louis	McDonald O G d.....	Stewartsville
Woerheide & Luehrmann, planing mill, 813		Shapter Wm saw mill.....	Taos
Cass st.....		Marbes Chas d.....	Tipton
Schulenburg & Boeckeler m and d.....		Hannesteln W saw mill.....	Tuscumbia
Lesley, Garnett & Co., planing mill, 124		Mabrey Thos.....	Twin Springs
Olive st.....		Willard P G & Son d.....	Utica
Parker, Spencer & Co., 3,922 Broadway m		Savage E d.....	Vandalia Station
and d.....		Mundy W W d.....	Verona
Knapp, Stout & Co., Bremen Ave m and d		Lowe W d.....	Warrensburg
Patrick Bros. Lumber Co., Bremen Ave d.		Moore & Kinsell d.....	
Schuelle & Querl, n. Main st d.....		Schowengendt E & Son d.....	Warrenton
Phillibert & Johanning, planing mill, 1502		Trentman, Urup & Co p m.....	Washington
to 1518 Market st.		Fletcher W d.....	Waverly
theo. Bloess, Carondelet Ave. cor. Barton		Miller Jacob d.....	Wellsville
avenue, 609 Chouteau Ave. bet. 6th		Allen Jas P d.....	Weston
and 7th sts.....		Wells John B saw mill.....	
		Morse C C d.....	Windsor

NEBRASKA.

Dean, Dennis & Co d.....	Ashland	Turner & Hulst d.....	Columbus
Wiggerhorn E A d.....		Sawyers & Leach d.....	Covington
Lyman & Co d.....	Beatrice	Caldwell & Slade d.....	Crete
Parat & Marsh d.....		Graves & Williams d.....	Fairbury
Foster N d.....	Bell Creek	Jaynes D P d.....	Fairfield
Crowell C C & Co.....	Blair	Edwards H L d.....	Fairmount
Bell John R d.....	Brownville	Lyon J F d.....	Falls City
Clemans A F.....	Coleraine	Rickards & Merrill d.....	

Thacker & Davis saw mill.....	Falls City	Linsabaugh Wm d.....	Nebraska City
Hoagland Geo & Son d (St Jo Mo).....	Grand Island	Hoagland Geo T & Son d (St Joe).....	Omaha
Peck & Meston d.....	Harvard	Young & Co (Clinton Ia) m and d.....	
Ballard J H d.....	Hastings	Moyer A sash, doors etc.....	
Cox d.....		Turner Chas d.....	
Grannis A B d.....	Hebron	Foster W M m and d.....	
Tinker E P d.....	Humbolt	Pomeroy & Kennedy d.....	Papillion
Sullenberger, Newton & Landon, saw mill.....	Tonia	Tisdale F A Jr & Co d.....	Pawnee City
Hedges & Granger d (Sioux City Ia).....	Jackson	Gardiner & Robinson d.....	Pebble Creek P O
Van Alstyne W L d.....	Juniata	Waterman H A & Son d.....	Plattsmouth
Babcock F C d.....	Lincoln	Faulkner E & Co d.....	Schuyler
Godfrey & Co d.....		Barrett W B d.....	Seward
Grant P J d.....		Sorter Isaac B & Son d.....	
Jones W G & Co d.....		Gray W H & Son d.....	Sutton
Monell & Lashley d.....		Monell, Lashley & Weed d.....	
Noyes E d.....	Louisville	Foster H P d.....	Tecumseh
Moore & Sunderland d.....	Lowell	Sanders Wm d.....	Unadilla
Hill W E d.....	Nebraska City	Crowell C & Z A d.....	West Point
Monroe & Dillon d.....			

## KANSAS.

Kuney J & Co d.....	Abilene	Stevens & Co d.....	Humboldt
Rice & Floyd d.....		Edwards W C d.....	Hutchinson
Gregory & Herrick d.....	Alma	Bradford McCoy & Co m and d (Quincy Ill).....	Independence
Channell S P d.....	Arkansas City	Culver & Rowe d.....	Iola
Early Sherer & Stone d.....	Atchison	Hunt E S d.....	Irving
Gillespie G W & Co saw mill.....		Rogers L F saw mill.....	Island
Hixon G C & Co d (Hannibal Mo).....		Boller H A d.....	Junction City
Jones & Co d.....		Sickney A C d.....	La Cygne
Lukens David d.....		Green M T d.....	Lawrence
Clark H S d.....	Baxter Springs	Bruce C & Co d.....	
Smith J H d.....		Grovenor & Reddington.....	
Patter E M d.....	Belle Plains	Lewis & Allen d.....	
Campbell Geo & Alex.....	Beloit	Lewis & Ben-on d.....	
Holbrook T saw mill.....	Blue Rapids	Simpson Bros d.....	Leavenworth City
Stakes G B d.....		Angell & Foster.....	
Mynant J B d.....		Chambers Bros m and d (Muscatine Ia).....	
Leslie M F d.....	Brookville	Colly & Beckford d.....	
Voorhis A L d.....	Bunker Hill	Ingersoll Jerome d.....	
Miner S E & Co d.....	Burlingame	Munson & Burrows p m.....	
Cross David & Sons saw mill.....	Burlington	Plummer & North saw mill.....	
Smith L C d.....	Cedar Point	Spartley & Taylor saw mill.....	
Clippinger P & Son d.....	Centralia	Bower & Bradshaw d.....	Lenexa
Churchill & Co d.....	Chanute	Green & Byrne d.....	Louisburg
Eaton Z A & Co saw mill.....		Goodnow F d.....	Macpherson
Manlove L d.....	Cherokee	Haight & Touts d.....	
Brown & Co p m.....	Chetopa	Tyler M S d.....	Manhattan
Officer R W d.....		Richardson & Clark.....	Marysville
Tyler M S d.....	Clay Center	Thomas R A & Co d.....	Muscotah
Smith G W (agent for Johnson & Bridges).....	Clyde	Brown S A & Co d.....	Neosha Falls
M. Kircher & Mitchell d.....	Colody	Covert Parsons & Cozine d.....	
Allen Bros d.....	Columbus	Muse Spivey & Co d.....	Newton
Campbell D W d.....	Columbia	Dorman & Gorsline d.....	Olathe
Edwards W C d.....		Hardin E F & Co d.....	
Colton Bros d.....	Council Grove	McCarthy J N d.....	
McLoon E C d.....		McNabb J A d.....	
Allen F M & Co d.....	Edgerton	Hunsicker Isaac K d.....	Osage City
Fauble J M & Co d.....	Edwardsville	Gittings Louis d.....	Ossage Mission
Kuny Southwick & Co d.....	Ellsworth	Mills D C & Bro d.....	Oswego
Armor Thos saw mill.....	Emporia	McDonald Kemper d.....	Ottawa
Pierce C F & Co (also at Wichita & Florence).....		Richmond Bro d.....	Oxford
Lothholz Chas d.....	Eudora	Dahl W saw mill.....	Ozaukee
Clouston & Allen saw mill.....	Eureka	Thayer J E & Son d.....	Paola
Raymond M B d.....		West A S & Son.....	
Freeman Chas F & Co d (Emporia).....	Florence	Wallis J A d.....	Parkerville
Dorman N d.....	Fontana	Calkins & Fisher d (Chicago Ill).....	Parsons
Whare H E & Co d.....	Fort Scott	Mixell W d.....	
Brady A d.....	Frankfort	Vinneman B & Co d.....	
Filkins D J.....		Campbell G W d.....	Peabody
Thorne W H d.....	Fredonia	Chenault Bros d.....	
McCoy W d.....	Gardner	Edwards W C & Co d.....	Peace
Crane J P d.....	Garnett	Blaker & Bro d.....	Pleasanton
Flickenger Robt saw mill.....	Geary City	Horr Henry d.....	Pomona
Patterson J C d.....	Girard	Ricksecker G V d.....	Russell
Duizeon F A & Co d.....	Grasshopper Falls	Waterman & Hobbs d and sash doors etc.....	
Brinkman G L d.....	Great Bend	Yoxall Sons & Co d.....	
Buning John d.....	Hanover	Marbough & Block d.....	Sabetha
Treat M J R d.....	Hays City	Turner & Sons d.....	
Bause J P d.....	Hawthia	McHale P H d.....	St Marys
Spears I N d.....		Eberhart & Sudendorf d.....	Sallina
Dickey Jasen d.....	Holton	Goodnow Frank d.....	
Williams & Woener d.....			
Ames John d.....	Humboldt		

Congdon W d ..... Sedgwick City  
 Burnett A H d ..... Seneca  
 Meacham J C d .....  
 Pendleton B H d ..... Solomon City  
 Rogers J C & Co d ..... Spring Hill  
 Bradford McCoy & Co m and d (Quincy Ill). Thayer  
 Reed C d ..... Topeka  
 Tipton Bros d .....  
 Wilder & Eck d .....  
 Pope Clement d ..... Troy  
 Boetcher A F & Co ..... Wamego  
 Prunty Jas L. d .....  
 Hoak Thos d ..... Washington  
 Baker A M (agent for Hixon & Co Hanni-  
 bal Mo). ..... Waterville  
 Johnson & Bridges .....  
 Palmer & Orton d ..... White Cloud  
 Taylor & Ortons, saw mill .....  
 Davidson & Switzer d ..... Wichita  
 McClure W P & Co d .....  
 Millis & Stearn d .....  
 Pierce C F d (Emporia Ka) .....  
 Shellabarger Oliver d .....  
 Holsberlein & Wholmeier d ..... Wyandotte  
 Wolcott A G d .....

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At least one member of the editorial corps will be traveling almost constantly through the Pineries of Wisconsin, Minnesota and Michigan, seeking information, statistics and opinions from reliable sources. Illustrations of prominent lumbermen and scenes throughout the different pineries will form a prominent and attractive feature of THE WISCONSIN LUMBERMAN, thus rendering it a pleasant and welcome visitor to the family of every Manufacturer, Logger, Landowner or Raftsman in the Northwest.

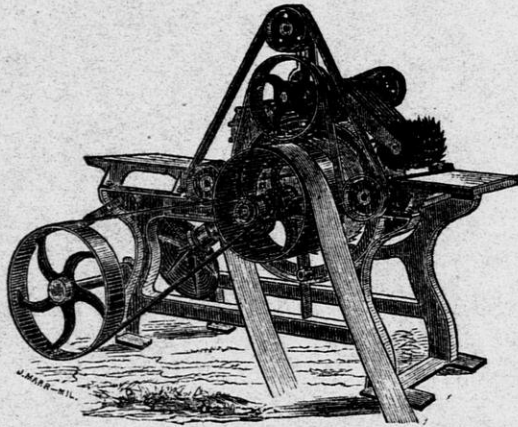
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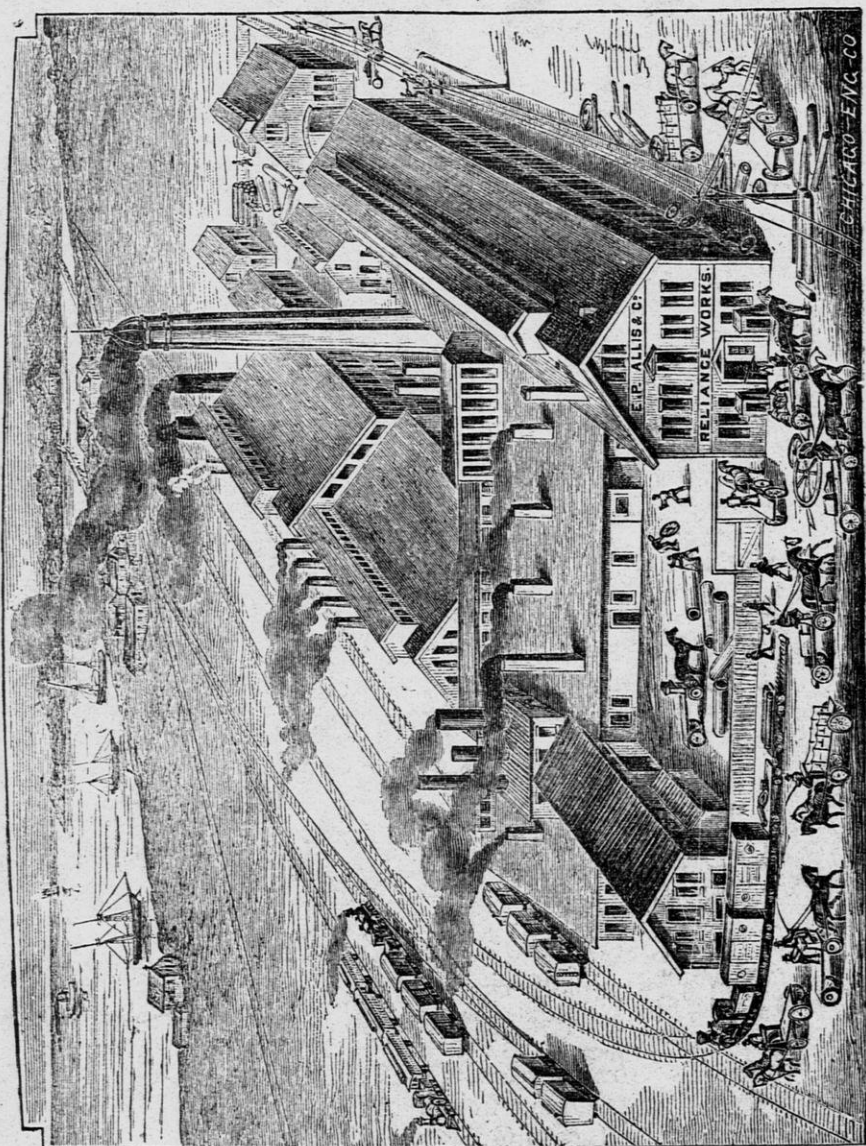
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