

A CHANGE.

The circular announcing the retirement of Mr. Henry White Castle, from the old-established firm of Browning, Castle & Co., of Abchurch Yark, is already in the hands of the trade, but will not take anybody by surprise, as contemplated dissolution having been known some time past. Mr. Castle was connected with the firm for the past 24 years, and has therefore established some claim to resign business duties after such a long spell of commercial activity. The retirement, however, be good altering the title of the firm, which will in future be Browning & Co., will bring about no other change, the business being continued by the remaining partners in the usual way. These will be Mr. W. Browning, Mr. H. A. Lott, and Mr. J. G. Drummond. We understand the firm have already made their usual purchases, following the plan which during the past few years they have adopted of securing large proportions of some of the leading stocks in Canada. We wish the firm under a new arrangement every success, and hope that the time will be favorable for them in the prosecution of their large and increasing trade. *Timber Trades Journal.*

LUMBER LEFT OVER.

The *Lumberman's Gazette* says:—A statement of the amounts of lumber on hand, logs sold over, logs put in 1884-5, the cut of 1885 and the intended cut of 1886, has been issued by S. S. Hotchkiss, secretary of the Lumber Manufacturer's Association of the Northwest. The figures, it is stated, were obtained from reports made by manufacturers only and supplemented by estimates in about a dozen instances, where reports could not be obtained from individuals. The secretary's statement says it is probable that 10 per cent. added for admissions would no more than cover the multitude of small operators from whom no reports were obtained, but in one instance, at least, his figures are greatly in excess of what they should be. He places the amount of lumber over in 1885 on the Saginaw river at an even 100,000,000 feet more than was reported by the manufacturers to the *Lumberman's Gazette* for the statement published January 6th, this year, and there is about the same excess in the amount for 1884. The amount of lumber reported on hand on the Saginaw river in 1884 was 449,000,000 feet, and the amount reported on hand at the close of 1885 was 329,000,000, including amount sold, some 68,000,000 feet, and the amount held for the car trade, some 60,000,000 feet. We give the totals of the amount on hand in the different states of the northwest, for what they may be worth, hoping there is not such an excess at other points as on the Saginaw river:—

LUMBER CARRIED OVER.

	1884.	1885.
Michigan, lower peninsula....	1,540,303,201	1,265,244,526
Michigan upper peninsula....	101,028,201	143,655,800
Wisconsin.....	814,179,564	916,221,775
Minnesota.....	615,068,000	515,162,000
Iowa (Mississippi river)....	327,175,000	323,630,639
Illinois (Mississippi river)....	75,650,000	62,200,000
Missouri (Mississippi river)....	57,000,000	99,000,000
Total.....	3,450,404,365	3,325,105,696

LOGS FOR 1886.

The statement gives the amounts of logs left over and the intended cut of 1886 at the various points, and suggests very properly that allowance must be made for the operations of outside parties who are not mill owners and have not reported. There are comparatively few of them in Michigan, but they abound in Wisconsin and Minnesota, and the Mississippi river mills depend upon such operations largely for their supplies. Following are the reports:—

	Logs over 1886.	Intended cut, 1886.
Michigan, lower peninsula....	236,450,000	2,944,500,000
Michigan upper peninsula....	89,370,000	480,000,000
Wisconsin.....	281,833,000	1,611,950,000

Minnesota.....	55,684,800	535,523,300
Iowa mills (Mississippi river)....	110,519,670	141,000,000
Illinois mills (Mississippi river)....	27,845,231	26,000,000
Missouri Mills (Miss. river)....	12,070,480	24,500,000
Totals.....	819,273,206	5,661,473,300

The total amount of logs over in 1884 in the states named was 1,266,066,176.

LUMBER MANUFACTURED IN 1885.

The report of lumber and shingles manufactured in 1885 in the states named is undoubtedly somewhat below the total cut of the year. Many small mills exist at outside points the products of which can not well be obtained.

The report of Secretary Hotchkiss gives the following figures to which he suggests an addition of 10 per cent:—

	Lumber.	Shingles.
Michigan, lower peninsula....	2,985,493,097	2,350,627,000
Michigan, upper peninsula....	545,264,589	188,557,000
Wisconsin.....	1,884,814,753	1,051,604,350
Minnesota.....	882,053,908	338,573,080
Iowa.....	550,569,432	226,018,000
Illinois.....	134,200,000	29,689,750
Missouri.....	48,656,000	18,300,000
Total.....	7,030,501,779	4,203,399,180

MICHIGAN HARDWOODS.

It is a very common thing to find in the columns of the contemporary press, says the *Michigan Tradesman*, exhaustive articles deprecating the rapid destruction of the pine timber in northern Michigan, accompanied by startling statistics showing that, at the present rate of denudation the supply of pine will be practically exhausted in a few years. While in many instances these statistics and conclusions are very wide of the mark, there is pith in the main idea underlying them, and ample material for reflection. But the apostles of forestry in their eagerness to inveigh against the wholesale conversion of pine forests into lumber, too often overlook a species of waste which is infinitely more mischievous than the operations of the pine industry, viz., the waste of hardwoods by the logging operations of settlers. If this destruction were confined to legitimate lumbering processes the case would at least have mitigating features. But in many instances the waste is purely wanton; and wanton waste is under all circumstances to be deplored. The soil which grows hardwood timber is well known to be richer, and more perfectly suited for agricultural purposes, than that on which pine is commonly found. For this reason the hardwood lands suffer most severely from the hands of the settler. The fact that the ultimate value of Michigan hardwoods is but imperfectly, and not generally, understood, also favors the destruction. The average settler knows that the immediate revenue to be derived from his hardwood lands will be greater if he brings them under cultivation than if he leaves the forests inviolate; hence he proceeds to get rid of the timber as quickly as possible, by gathering into log-heaps and reducing it to ashes.

The exigencies of agriculture, of course, are not to be ignored. It is absolutely necessary that a certain proportion of the land should be cleared and placed under cultivation. But American farmers too often labor under the mistake that the measure of successful husbandry is in the area of land under tillage. Many of them have yet to learn that a small farm, well cultivated, may be made more profitable than a large farm carelessly cultivated; and that it would be true economy to clear a much smaller proportion of their hardwood lands than is customary, leaving the timber on the remainder to increase in value, as it will inevitably do in the near future.

Northern Michigan possesses magnificent possibilities (which can be realized if she husband her resources) for the manufacture of hardwood products. Situated in the central portion of the vast northwest, between two great inland seas, which afford easy and cheap transportation to the markets both of the east and west, her facilities for the profitable disposal of her wares are all that can be desired. Her forests abound in an excellent variety of

woods suitable for manufacture, and her numerous streams, flowing through the heart of the hardwood regions, afford cheap and abundant power for manufacturing purposes. In short, the natural advantages of northern Michigan for wood manufacture are unsurpassed, and only await the enlistment of extensive capital and enterprise to raise them to an important position. Already the good work has begun. Handle factories, bowl mills, spoke and hub factories, basket factories, etc., have been established at various points with favorable results. But the development of these industries is yet in an incipient stage. For the full realization of the manufacturing possibilities of northern Michigan, we must look to the future. A large proportion of the smaller class of articles manufactured from hardwoods, now comes from Maine and other New England states. There is no good reason why the markets of the west and northwest should not be supplied from the vast reserve of raw materials lying at their thresholds; and they certainly will be so supplied in the not distant future, if the settlers of northern Michigan do not, in the meantime, render such a result impracticable, by the wanton destruction of the vast tracts of forest wealth which are indispensable to the establishment of an extensive manufacturing system in the line of hardwood products.

MODERN LUMBERING.

A correspondent writing from Otsego Lake, Mich., to the *Detroit Free Press*, furnishes the following interesting account of lumbering operations thereabout:—

This place presents a scene of more than ordinary business activity this winter. Twenty-five lumber camps are in operation, the supplies for which come here. There will be about 100,000,000 feet of logs "banked" by these 25 camps.

The extent of the lumber operations of Michigan are understood or appreciated by very few; what it means to be a lumberman at the present time differs materially from that of twenty, or even ten years ago. There is probable no business that has made more rapid advance or has seen greater improvements in the mode of operating than lumbering.

Only a few years ago the best pine standing away from a stream was of little value, the only method of marketing logs being the "drive" down the stream; now, railroading in connection with any large lumbering operation is considered a necessity and by this means the most remote tracts of pine are brought into the market.

A lumberman twenty years ago was a man who went into the woods in the early fall with a crew of men, rarely numbering 50, built his camps, surveyed and cut out his log-roads, leading to the inevitable stream where his logs were to be hauled and banked. These operations he superintended himself, often remaining in the woods the entire winter and only coming out with the drive at the mouth of the stream late in the spring. The logs were then turned over to the mill owner and either sawed on shares or purchased outright. The mill men and the lumbermen were as distinct a class as the farmer and the owner of the grist mill who ground his grain. It was necessary for the woodsmen simply to understand his part of the profession; the mill men then took the logs, manufactured the lumber and again turned over their product to the eastern dealer, who conducted the mercantile part of placing the lumber on sale.

Now, to be a successful lumberman, means that a man must have more requirements than for almost any other business. As nearly all heavy lumbering operations are conducted with a railroad, he must understand railroading. Several plants in this state are now operating from twenty to thirty miles of well constructed and ballasted track, with good rolling stock. He must be a thorough woodsman, for upon his own judgment of the quality and quantity of the pine it will yield he purchases large tracts of land. He must understand the river work, and know when his interests are properly served on the drives, and that his logs may not be hung-up ere the flood subsides. He owns his own mills; he must therefore be a mechanic, and as this is very important he

must be a good one. He must be a navigator and a vessel owner, as after manufacturing his lumber he transports it in his own monster steam barges to his yards in the east. As he requires large quantities of supplies he raises them himself, and some of the model farms of Michigan are owned and conducted by the lumbermen. He is therefore a farmer. He must, furthermore, be a close observer of human nature, understanding and being able to control large bodies of men, for the heavy lumber firms of this state have in their employ from 600 to 1,500 men each. To control and manage them successfully requires a diplomat. How successfully this is done one illustration will show. Messrs. Henry Stephens & Co. are extensive lumbermen at St. Helen, Roscommon county. From one of the proprietors the following facts were obtained. There are at present employed 400 men. Of this number 150 have been in their employ over six years, 25 over 10 years, 15 over 15 years, 10 over 20 years, and five over 30 years. In these days of change and dissatisfaction, strikes and lock-outs the above figures are indeed refreshing, and there are many other firms whose records would prove equally complimentary to employer and men.

There is no term that implies a greater knowledge of business methods, of a greater diversity and development of abilities, than the modern "lumberman."

MECHANISM OF A TREE.

A tree receives its nourishment from the roots. These correspond to the mouth in the human frame. Now, as in the human frame the nourishment received is, after being supplied to the blood, exposed to the operation of air in the lungs before it is fit to give material to the body; so in a tree, the nourishment taken in at these tree mouths, the roots, passes to the lungs of the tree, and there, by contact with the air, is rendered fit to supply fresh material to the tree. These tree lungs are the leaves. This operation is affected by the passage upward from the soil around the roots, through the trunk, the branches, and every twig of the tree to the leaves, of a large quantity of water, containing in solution the nutriment for the tree. Arrived at the leaves, a process takes place which separates, by means of contact with the air, the most of the water the roots had taken in from the valuable nutriment, and throws off, in vapor, the surplus water into the air. At this time certain constituent portions of the air are utilized and mingled with the nourishment retained. This is all, now a small portion in comparison with what had arisen from the roots, yet retaining enough water to serve as a vehicle back, returned towards the roots, depositing in its way, in leaf, bark and root, what is needed there for the growth of the tree. In these they undergo, especially in the bark, further fitting and digesting processes before they assimilate with the substance of the tree. The water which was retained to carry them down, being no longer needed, passes out at the roots. . . . In the back of the leaf are numerous stomates or mouths. . . . Of the extent of the provision made for evaporation by the leaves, some idea may be formed from a consideration of the number of stomates or stomates to be found in the leaves of plants. The number varies in different plants, for which variation a reason may be found in the different conditions of growth to which they are subjected in their several natural habitats. In the back of the leaf of the apple tree there are about twenty-four thousand stomates to the square inch. In the leaf of the lilac there are one hundred and sixty thousand of them to the square inch. In the leaves of the cherry laurel there are none on the upper surface of the leaf, but ninety thousand have been counted on the lower surface.—*Exchange.*

A Washington Treasury Decision.

WASHINGTON, Feb. 17.—The Treasury Department has declined to grant the request for permission either to reaw in bond certain lumber imported from Canada or to export for a drawback, under 3,019 of a revised statute the lumber re-sawed after the payment of the duty.