

WHITE PINE EXHAUSTION.

The ably edited *Northwestern Lumberman*, of Chicago, which has frequently criticised the estimates given of the pine standing in Michigan and other states, with the intention of showing that they were unreliable, itself recognizes the fact that the forests are being depleted. It says:—

The readers of the *Lumberman* well know that, as a journal, it has never taken the extreme view in reference to the rapid exhaustion of the white pine supply. Yet it has not been unmindful of the fact that the forests of Michigan, Wisconsin and Minnesota could not eternally furnish food for the saw mills. It has also recognized the truth that on most of the area now covered with white pine there can be no second growth of this wood. Indeed it is doubtful if any other state than Maine has a soil or climate adapted to a second crop of pine trees sufficiently sturdy to make saw logs. Even in Maine the sapling pines attain but a limited growth, and are used mostly for the making of coarse box boards, and are not adapted to general lumber purposes. Hence, as each pine tree falls, there is one less in the myriads that stand in the forest, and its place cannot be filled. Even if it were possible to grow another crop of pine, it would not serve to fill the lack that would ensue before the saplings were ready for the market.

Until within the past half dozen years there was very little believed about the comparatively near approach of the end of the white pine supply. Even when it was announced, three or four years ago, that there will be little or no more pine floated out of Cass river, in the Saginaw district, and that lumbering on the Flint was drawing toward an end, western operators paid but slight attention to the statement. It was thought then, and still is, to a considerable degree, that there was, and remains, an inexhaustible supply in the forests of Michigan Wisconsin and Minnesota, and that practically, so far as this and the succeeding generation or two are concerned, the exhaustion of the white pine supply of the northwest is a matter that belongs to some remote future century.

But this view is as extreme as the other that has been rife for twenty years past, which has fixed the limit of pine supply five, ten or fifteen years hence. The prodigious rate at which consumption of pine lumber has proceeded for the past fifteen years is at last visibly telling on the resources of the forests. Not that production has as yet been seriously effected by the coming exhaustion that casts a shadow on present operations; for, though manufacturers and stumpage owners are beginning to shape their affairs so as to avoid a wasteful slaughter of pine in the future, and husband their holdings as much as possible, there is still manifested a disposition to crowd production a little beyond the consumptive and trade requirement. Undoubtedly this propensity will be exhibited until the supply has been so reduced as to permanently raise the price of both stumpage and lumber to a pitch that will induce a strict economy of forest resources. There are signs of coming restricted supply, however, that must be visible to any one who will open his eyes and look around. The more prominent of these are glanced at, as follows:

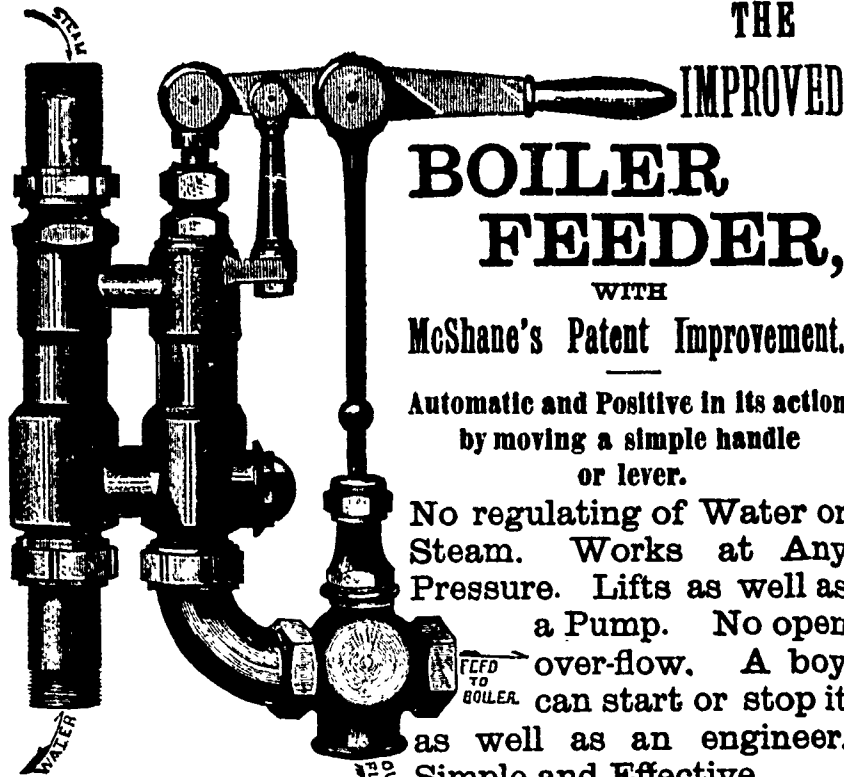
The heavier operations of lower Michigan are on the headwaters of the logging streams, quite in the middle of the state, and in the regions where the waters flowing into Lake Huron, and those that run into Lake Michigan, debate the ground for supremacy in drainage. The counties of Roscommon, Crawford, Missaukee, Wexford, Kalkaska, Osceola and Clare, are now the home of the vaster pine forests, while the counties that surround the interior group, though still possessing much pine, are losing their prominence as producers. Twenty years ago the interior counties named were a *terra incognita* to the loggers and mill owners along the lake shores. Now the pine has been so largely cut off on the headwaters of the Muskegon, the Manistee and the Pere Marquette, that log hauls and logging railroads are the rule, and not the exception, as formerly. Great companies are annually taking out 20,000,000 to 40,000,000 feet of logs on the headwaters of all the important streams of lower

Michigan, and have reached up to the hardwood belt that covers the northern counties of the state. There are no longer vast stretches of untouched pine in lower Michigan. Nearly every section has been scarred and gored by the operations of the industrious and enterprising logger. How long will it be, under such insupportable conditions, before it will begin to be said that this, that and the other owner has exhausted his pine in the counties that have been named? For several years past mill concern after mill concern has cut its last pine tree on the lower portions of the Grand, the White and the Muskegon rivers, and has closed up its business on that account. Such notable instances as the retirement of the Beidler Manufacturing Company last year, and A. A. Bigelow & Co., this year, from the Muskegon saw mill business, wholly on account of the exhaustion of their stumpage supply, have been common along the Michigan shore within the past half dozen years. Many concerns are keeping themselves alive by buying more pine on the headwaters of the streams. Thus is being concentrated and intensified the final struggle on the backbone of the state. There the battle will end, so far as the lower peninsula is concerned. Not that there will not be scattered pine forests and some logging and sawing in lower Michigan for twenty or thirty, or even forty years to come, but the larger operations will be events of the past before the nearest of these limits of time; the supply will have been so reduced that rush and competition for volume of business will be no longer possible.

The direction that the product of Michigan mills is taking for market is a noteworthy feature, as bearing on the diminution of the supply. Time was when the Saginaw district and the Huron shore furnished the eastern markets with lumber.

Latterly buyers for the eastern markets have found that the Saginaw and Huron shore supply is not adequate to their needs. Not that there is not enough lumber in those districts, measured by feet, but it is not properly classified for profitable handling; besides, it is held in close hands, who wring all the speculation out of it. The yard trade in the Saginaw valley is also increasing, and will eventually require a large portion of the stock that once went east by lake. In view of the newer phrases of the Michigan lumber trade, we must conclude that the eastern demand has begun to spread over the supply that was once altogether directed to the westward. What does this mean but that the supply in the older districts is becoming inadequate to the eastern demand? And must we not conclude, also, that the eastern requirement is year by year increasing, and that whereas probably over 200,000,000 feet of lumber is now sent to the east from mills on Lake Michigan and Lake Superior, the time is near at hand when 500,000,000 feet will take that direction? In the meantime the western demand will increase in like proportion. This enlargement of the requirement is but slightly taken into account when men talk about the diminishment of the pine supply. It is safe to conclude that the end will draw near with accelerated speed as it approaches, because that, while the supply is growing less all the time, the demand is increasing. Whole mill cuts are now going to eastern markets from north shore and Green Bay ports. An increasing amount is being shipped from points on the east shore. Huron shore mill men already have to buy a part of their log supply in Canada. Muskegon, White lake and Grand river lumbermen are seeking new locations in Wisconsin and in the Lake Superior region. Much of this new enterprise is for the supply of the eastern trade, while that of the prairie states is constantly enlarging. These considerations are corpulent with meaning in reference to the rapid exhaustion of the white pine supply.

It cannot be denied that yellow pine, poplar, cypress and the Pacific coast woods will more and more come into use in the fields where white pine has hitherto been supreme. But all of these woods have a local territory of their own that will need an increasing supply. Aside from this is the fact that nothing has, nor can, fill the place of white pine. The longer it endures the test, and the more it is brought in sharp comparison and competition with other



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kinds of lumber, the better does its reputation become. So it is plain that nothing can prevent the enormous consumption of white pine lumber and the rapid diminution of its forest supply.

THE MANAGEMENT OF STEAM BOILERS.

The following rules for the management of steam boilers are laid down by the Hartford Steam Boiler and Inspection Company:—

1. Condition of Water.—The first duty of an engineer, when he enters his boiler room in the morning is to ascertain how many gauges of water there are in his boilers. Never unbank or replenish the fires until this is done. Accidents have occurred, and many boilers have been entirely ruined from negligence of this precaution.
2. Low water—In case of low water, immediately cover the fires with ashes, or, if no ashes are at hand, use fresh coal. Don't turn on the feed under any circumstances, nor tamper with or open the safety valves. Let steam outlets remain as they are.
3. In cases of foaming—Close throttle, and keep closed long enough to show true level of water. If that level is sufficiently high, feeding and blowing will usually suffice to correct the evil. In cases of violent foaming, caused by dirty water, or change from salt to fresh, or vice versa, in addition to the action above stated, check draught, and cover fire with fresh coal.
4. Leaks—When leaks are discovered they should be repaired as soon as possible.
5. Blowing off—Blow down, under a pressure not exceeding twenty pounds, at least once in two weeks—every Saturday night would be better. In case the feed becomes muddy, blow out six or eight inches every day. When surface block-cocks are used, they should be often opened for a few moments at a time.
6. Filling up the Boiler—After blowing down, allow the boiler to become cool before filling again. Cold water pumped into hot boilers is very injurious from sudden contraction.
7. Exterior of Boiler—Care should be taken that no water comes in contact with the exterior of the boiler, either from leaky joints or other causes.
8. Removing deposit and sediment—In tubular boilers the hand-hole should be often opened, and all collections removed from over the fire. Also, when boilers are fed in front, and blown

off through the same pipe, the collection of mud or sediment in the rear should be often removed.

9. Safety Valves—Raise the safety valves cautiously and frequently, as they are liable to become fast in their seats, and useless for the purpose intended.

10. Safety Valve and Pressure Gauge—Should the gauge at any time indicate the limit of pressure allowed, see that the safety valves are blowing off.

11. Gauge Cocks, Glass Gauge—Keep gauge cocks clear, and in constant use. Glass gauges should not be relied on altogether.

12. Blisters—When a blister appears there must be no delay in having it carefully examined, or patched as the case may require.

13. Clean Sheets—Particular care should be taken to keep sheets and parts of boilers exposed to the fire perfectly clean; also all tubes, flues and connections, well swept. This is particularly necessary where wood or soft coal is used for fuel.

14. General Care of Boilers and Connections—Under all circumstances keep the gauges, cocks, etc., clean and in good order, and things generally in and about the boiler room in a neat condition.

MARMORA.

DROWNED.—The Campbellford *Herald* says that a telegram was received at the Rathbun office, Campbellford, conveying the intelligence of the drowning of Philip O'Hara, a young man in the employ of the company, which took place in Crow River, at Marmora, on May 29th. The deceased was crossing a river in a boat, in company with Dan Murphy, intending to land on an island midway in the stream; but before reaching it the men were capsize and thrown into the water. Murphy started to swim ashore, but returned to the boat. O'Hara, who was able to swim, did not seem to do much to help himself, and sank a short distance from where the boat was overturned.

A Lady's Secret.

"I'd give a good deal if I had such a pure, healthy skin as you have," said a lady to a friend. "Just look at mine, all spots and blotches, and rough as a grater. Tell me the secret of your success in always looking so well." "There is no secret about it," was the reply, "Dr. Pierce's 'Golden Medical Discovery' cleansed my blood, and when that was done my skin, which was worse than yours, began to look smooth and healthy, as you see it now."