

Doom of White Pine.

The days of the white pine forests in Minnesota are numbered, and, as this State is the last of the great central Northwestern States in which white pine grows, the day of its extinction marks the end of white pine as a factor in the trade of the country. There is no other tree so valuable for general building purposes; nothing has been found to take its place. The yellow pine of the South, the fir, cedar, or redwood of the far West, the spruce of Maine, and other woods are being gradually introduced to take the place of white pine, but none is equal to it in the ease with which it adapts itself to the tool of the workman, to the shapes forced on it by the wood-working machine, or in strength, lightness, and beauty. The white pine is the king of woods, and has been and still is the chief factor in wood building operations all over the country. It has been used as if the lumbermen believed its supply to be absolutely inexhaustible, and that they could leave to their children no dearth of this most important wood.

Estimates just compiled by the State Forest Warden of Minnesota, an office created by the last Legislature because of the opinion that the rich forests were being too rapidly depleted, show that there are in Minnesota 10,000,000 acres of forest land, and that on this there stand, in addition to other woods, 19,000,000,000 feet of live white and Norway pine and spruce, of which the white pine aggregates 11,500,000,000 feet. This is a vast total, but it is being cut down at the rate of about 1,200,000,000 feet a year, besides fearful losses by fires, and the supply will hardly last more than a dozen years. It would not last so long as this were it not for the fact that the fire-swept pine can be saved by cutting when it is so located that it can be reached by railroads or water in time to save it from the attacks of worms. There is, too, a constant growth of the green timber, estimated at not far from 1½ per cent. a year, which will have some effect in warding off the final axe cuts. But in from ten to fifteen years the last white pine forests in the United States will have disappeared, for pine does not succeed as second growth timber, or at least has not done so with all the experiments carried on in the old pineries of Michigan and other States.

Michigan is now nearly denuded. Its mills have gradually been burned or torn down, or are cutting on timber imported from the Canadian shores of the Georgian Bay. In Wisconsin, where the destruction of the forests began at an earlier day than in Minnesota the end is approaching, and will come long before the date set for the North Star State.

Of course the figures given by the State Warden in this, his first report are only estimates. But they are as reliable as it is possible to make them, and are the combined result of the measures of experienced estimators for timber buyers, of the consultations of experts who have travelled and cruised through the forests for a lifetime, and of the personal knowledge of the foremost men in the pine trade. It may be that a mistake has been made, and that the total should be larger than reported, but that is not likely, and the figures are probably to stand until the forests have actually been cut down and the amounts taken from them accurately known. This is, of course, the only way possible to prove just what these 11,000,000 acres of land contain.

Thessaw mills of Minneapolis and Duluth each cut about 500,000,000 feet a year, running during the summer and fall. The Minneapolis cut all comes from the forests about the head of the Mississippi river, and in a few years will convert the headwaters of

that stream to a roaring gully or an almost dry channel. The cut of the Duluth mill comes from the shores of Lake Superior, and is about half supplied from Wisconsin. The effect of the cut about the great lake is already seen in its constant lowering, in the conversion of its mountain streams to torrents during the wet season and mere fishways in the dry, and in the prevalence of fires for months in the year. Mills at other points in the State, west of the vast Red Lake reservation, and on the lower Mississippi river, saw the remainder of the annual cut. This cut is growing year by year, and was never so large as in 1895. Timber in the old days that was thought far beyond the possibility of reach is now being taken out by thousands of feet daily by the logging steam roads that have superseded the water courses as indispensable adjuncts of forest destruction. These roads now reach the furthest points in the forests, and are built at little more expense than was formerly put on the hauling roads over which the logs were pulled by horse to the landing places on the streams which floated them to the mills.

Irrigation in Alberta.

W. R. Hull's irrigated ranch is one of the institutions of the West, says the Calgary Herald. Its five thousand acres, four hundred of which are cultivated and artificially watered by three miles of ditch, furnish one of the most significant object lessons in Canada. Though eight years in Mr. Hull's hands, and three years under irrigation, it never looked better than now.

"The year before we began to irrigate," said Mr. Hull as he showed a press representative over the place, "we got ninety tons of crop off that land. The first year with irrigation we got 600 tons, the second year 1,000 tons and this year we expect 1,200." No more striking proof of the benefits of irrigation could be sought.

The ranch contains thirty-two miles of Texas fencing. A band of cattle averaging 500 head, ready for the butcher, is kept on it the year round. As regards feed, shelter, water, scenery and every complement of an ideal ranch is perfection. Traversed as it is by two streams—the Bow river and Fish creek—there is no lack of water for either stock or crops. No prettier sight can be imagined than the straggling bands of fat Shorthorn steers along the valley of Fish creek with its back ground of timber and hills, and grass knee-high.

The rancho is picturesque. So is the Chinaman, who cooked an excellent lunch for the party. He is not only picturesque; he is a prodigy of usefulness. "Charlie," said his boss, while the trio of us enjoyed a smoke after lunch, "ridedown and bring the cattle over to this side the hill." In a few seconds "Charlie," mounted on a stout cayuse, was transformed into a regulation cowboy, and when we drove up the valley he had a magnificent band rounded up in shape to be inspected. The Celestial factotum also attends to the domestic stock, the garden and the irrigation dams. The professor came to the conclusion, in classical language, that he was a jim-dandy.

The production of a necessary adjunct to the travelling outfit of a Northwest party reminded the professor of buying sheep in the north of Scotland. After breakfast the receptacle is produced, and you have fifteen preliminary drinks before going out to look at the sheep. If the sale is made you go back to the house to celebrate the event in earnest. After lunch you have fifteen more, not counting numerous lubrications during the lapses of conversation at lunch. However, as we were neither in the north of Scotland, nor

buying the inoffensive sheep, and as none of the party were afflicted with any trouble in the wind-pipe, the receptacle did not suffer.

One of the finest ornaments of the rancho is the house, only it is not built. On the plan, however, it appears as an elegant piece of architecture, with a handsome front, a wing and ornamental windows, and surrounded by a wide verandah. Contractor Jean Watson is at work on the first story, and will have the whole house finished in time for winter. The material, most of which is on the ground, is stone foundation, lumber, plaster and brick veneer. The cost will be between \$3,500 and \$1,000. The dining and sitting rooms, on each side of a fine entrance hall, will be each 16 feet by 22 feet. Besides these there will be a man's room, kitchen, and several bedrooms. The house will be fitted with open fire places, after the English fashion.

Decidedly the most interesting portion of the range is that under irrigation. It is served by a three mile main ditch constructed on a dead level and connecting the Bow with Fish creek. It can be made to carry water from the former to the latter stream and vice versa. The 400 acres cultivated lie admirably for receiving water. The crops grown include wheat, barley, oats, bromus and timothy. All these by the marvellous power of irrigation, grow from four to six feet high, thick on the ground and level as a table. The crop is heavy beyond belief and naturally astonishes the eye of an easterner. A great deal of the bonus and timothy is now in stack and the stubble has already put forth a green carpet of rich young growth. A fine patch has been left to raise seed for further planting next season.

At work in the vast hay field is a most ingenious but strangely simple stacking machine. Worked by one horse it throws on the high stack 200 or 1,000 pounds of hay with every sweep of its big arm, which disposes of its load as fast as six horses and three men could wide carrying; takes can pile them on. With two men on the stack 50 tons per day are put up, 300 tons having been stacked in about a week. As above mentioned there will be 1,200 tons in all. There will be no starvation on that ranch.

Australian bromo grass is the solution of the feed problem in Alberta. Its yield is enormous, increasing every year, and it makes excellent hay.

Fine patches of corn potatoes and other tender garden produce formed living witnesses to the fact that frost had not yet got in its deadly work.

Before returning the party inspected the head gates of the ditch where it starts from the Bow. Here there is an expensive cut 19 feet deep through gravel, a dozen yards of excavating that cost \$1,500.

On his farm near town Mr. Hull has commenced to irrigate 150 acres from the Calgary Irrigation company's canal. He also has irrigation on his big range at Plum Coulee, 60 miles south.

Asked whether he considered a dollar an acre a fair charge for water, Mr. Hull answered, "Yes," adding that irrigation was just the difference between a good crop and no crop at all, and that a dollar an acre was certainly a small consideration under such circumstances.

Northwestern Ontario.

The stock of John King, general store-keeper, Fort William, is advertised to be sold by auction on March 31.

The Coronada Gold Mining Co., of Rat Portage, Limited, has obtained a charter.

Andrew Cuthbert, tailor, has opened business at Rat Portage.