

ally supplies us with hundreds of thousands of oak and chestnut ties, and thus far we have not been compelled to go out of our own district for our supply. One county in Pennsylvania alone (Pike) furnishes a large proportion of our ties, and has for many years. There is not a station in that county that is not a supplying depot for ties. I have often wondered where they all come from, for the contractors who operate in that county, after more than 24 years' chopping and hewing in her forests, never hesitate to contract for the delivery of as many ties as are called for. They are brought in as far as twelve miles from the railroad. Besides the large number that we annually receive, there is a railroad on the other side of the county which also depends on Pike county for a large share of its ties. For more than 20 years also, up to the time that we adopted coal instead of wood as fuel, Pike county furnished the road with many thousands of cord wood every year—oak, chestnut, pine, beech, birch, maple and hickory. Besides these drafts on her woods, the county's best young chestnut trees have been cut for more than 30 years to help us in renewing our telegraph poles.

"Railroad ties need renewing every three years. In building a new road the estimate is 2,700 ties for the mile. It is safe to say that it will require 300 ties a year to keep a mile of road in repair. From 12,000,000 to 1,000,000 new ties are required by the railroads every year. In building the great Western railroads, the contractors, in many cases, purchase outright the timber along the route, or as near to it as possible. In that case they pay \$20 to \$25 an acre. Otherwise they pay from ten cents to twelve cents a piece to the owner of the land for the ties taken out. The average price paid to the tie contractor is 35 cents a piece, although we have paid 45 cents and even 50 cents for the best oak ties. We prefer hewn ones to sawed ones, and use no others, but many railroad men do not believe in the theory that they are any better. It may be only a superstition that the former last longer than the latter, but, if it is, it is so strong with us that we insist on having hewn ties. Of late years we have taken a great many hemlock ties, experiments proving that they can be used to advantage in many instances, on sidings and on tracks where the traffic does not require constant repairs."

TREES OF MADAGASCAR.

The soil of Madagascar is very fertile and produces rice, manok, sugar cane, pepper, cotton, indigo, tobacco, as well as a number of medicinal herbs. A chain of high mountains divides the country into several well-watered valleys. The most beautiful feature in the island is the imposing forests, which extend over a distance of 9,000 miles and contain fine and valuable trees, covered with rare climbers and orchids. Among the trees are found pandanus, acacia, sago and the coconut, but above all the ravinda (*Urania speciosa*), which of itself forms large forests. The Rev. W. Ellis says of this tree: "It springs up with a thick, juicy stem similar to the banana (*Musa sapientum*); in the centre of it are broad leaves which resemble the banana, but are less brittle. The leaves surround the stem in rows on opposite sides, and by increasing and leaning over those underneath the tree assumes the shape of a large open fan. I have counted on more than one occasion 20 to 25 leaves on one tree. The stock of the leaves is from six to eight feet long, while the broad leaf itself is from four to six feet long. The bright green leaves, extending themselves like a fan, form the most beautiful plant that can be imagined." But it is not only for its beauty that the tree is remarkable. It is used for many purposes in the same way as the palm tree in the Arabian desert; but one of its most important properties is that during the dry season it contains a large quantity of fresh and pure water, and is thus a refreshing spring for the thirsty traveller. The reservoir is situated at the base of the stock of each leaf, and upon being opened a stream of cool and sweet water appears. The natives use the leaves of the tree to cover the houses, and the bark for flooring. At most of the markets there are sold articles made from these leaves, comprising plates, dishes, tablecloths, napkins, etc., and

even spoons and tumblers, but for these last articles the leaves are specially moulded.—*India Mercury*.

A Nice Piece of Wood.

The widest piece of lumber that ever came into Chicago was recently received at the Lumberman's exchange. It is of California red wood, fifty-two inches wide, three inches thick, and fourteen feet long.

Forestry in the Disputed Territory.

A Winnipeg correspondent says:—When the Privy Council awards the disputed territory to our province or the other, among the earliest measures to be considered should be a way of enforcing forestry laws in north-western Ontario or south-eastern Manitoba—which ever it may prove to be. The country is to a great extent so rocky that should the timber be once cleared away from its surface it will never grow again. No better chance for putting into practice the advice contained in Mr. Phipps' excellent pamphlet could be found. The saw mills returns for Manitoba and Keewatin, up to October 31st of last year, show some 30 huge mills in operation throughout the province and Keewatin during the year. The returns show 25,465,841 feet B. M. of lumber manufactured during the year, 6,442,182 feet of shingles, and of lath 2,251,100 feet. Gratifying as the returns are in themselves, there is no doubt that the country is being shorn of its timber indiscriminately, and will soon be deforested unless the milling operations are controlled. The country is at that stage when a law preserving alternate strips of forest, or presenting some limits to timber slaughter could effect what never can be accomplished when once the wood is gone.

Forests Reproduced.

Attention has lately been called to the fact that the numerous small prairies that were common in the Wabash basin at the time of its first settlement have become transformed into woodlands, and that owing to this gradual change of prairie to forest, the actual forest area of some of the counties of southern Illinois is greater at present than fifty years ago. Extensive woods of oak and hickory more than eighty feet in height, and with trunks of nearly two feet in diameter, are now growing on what was open prairie within the memory of some of the present owners of land. This is interesting as a slight indication of the solution of the mystery which involves the origin of the prairies, while the rapidity with which these new woods have sprung up shows that the reproduction of our failing forests can be accomplished in a shorter time than is generally supposed, if proper consideration and attention can only be given to the subject.—*Lumber World*.

New Michigan Logging Railroad.

The Ludington, Mich., *Appeal* says that Butters & Peters' new logging railroad, lately completed, is doing excellent work. The road begins near the Crystal Valley postoffice, in Oceana county, and runs in a northeasterly direction to the south branch of Pere Marquette river, the whole distance being through an almost solid body of pine. For several miles the road runs through pine owned by T. R. Lyon, the right of way having been given provided the projectors of the road banked free of cost such timber as it was necessary to fell in order to construct the road bed. The banking ground of the road, on the south branch, is on a high bank, along which the rails are laid, so that it is only necessary to roll the logs from the cars, when they go pushing into the stream without trouble.

Manitoban Railways.

The following contract from the Winnipeg Commercial shows that Manitoba is not badly off for railways for a new country:—There are now 935 miles of railroad in operation within the borders of the Province of Manitoba. During the past season the Selkirk branch, 25 miles in length, has been completed and is now in operation; the O.P.R. Southwestern has been completed to Manitou, and a loop line constructed from Buffalo junction to Emerson, a distance of fourteen miles. The Manitoba and North Western Railway has been completed and is now in operation from Portage la Prairie

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to, a distance of ninety-eight miles. About fifty miles of the Souris Rocky Mountain Railway between Melbourne and Rapid City have also been graded.

It has been estimated by lumbermen who have been on the upper Mississippi that not over two-thirds as many logs will be cut this year as last.

INDICATIONS from Wisconsin point strongly to the fact that there will be no reduction in the lumber cut in that state. In fact many of the heavy lumber firms there will greatly exceed their former output.

Spider Life Wonders.

In a lecture in the Lowell Institute Professor Wood dealt with the phenomena of spider life. The female is larger and much fiercer than the male, who while paying his addresses is in constant peril, frequently losing some of his legs. In one tribe the female is 1,300 times as large as the male. The spider's thread is made up of innumerable small threads or fibers, one of these being estimated to be one two-millionth of a hair in thickness. Three kinds of thread are spun: One of great strength for the radiating or spoke lines of the web. The cross lines, or what a sailor might call the ratlines, are finer and are tenacious, that is, they have put upon them little specks or globules of a very sticky gum. These specks are put on with even interspaces. They are set quite thickly along the line, and are what, in the first instance, catch and hold the legs or wings of the fly. Once caught in this fashion the prey is held secure

by threads flung over it somewhat in the manner of a lasso. The third kind of silk is that which the spider throws out in a fine stream by which it suddenly envelops any prey of which it is somewhat afraid, as, for an example, a wasp. A scientific experimenter once drew out from the body of a single spider 3,480 yards of thread or spider silk—a length a little short of three miles. Silk may be woven of spider's thread, and it is more brilliant and glossy than that of the silk-worm, being of a golden color. An enthusiastic entomologist secured enough of it for the weaving of a suit of clothes for Louis XIV.

Twenty Labourers Run Down by a Train.

BRINTON, Pa., Jan. 10.—Fifteen or twenty men employed in clearing the snow from the railroad track were at work about seven o'clock last evening, in a cut just east of here, when an accommodation train rounded the bend. Before the men could get out they were run down by the train. It backed up, and the dead and dying were soon scattered along the track for fifty yards. The bodies of two men were found badly mangled, with life already extinct. Five others were badly injured and one has since died. After the accident the men crawled out of the snow in all directions. It is feared the bodies of others may be discovered. The accident was caused by the failure of the men to have a look-out to warn them of the approach of trains. It was dark, and locomotives near by with steam escaping made it impossible to hear the coming train.

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