

THE TIMBER TRADE OF AMERICA.

Prof. Rothrock, of the Pennsylvania University, in speaking of the danger of a timber famine, says that the area of the United States, including Alaska, is 2,303,660,000 acres. Of this, it is stated officially, 380,000,000 are in woodland chiefly belonging to private parties. In other words, taking our area as a whole, we have about 16½ per cent. remaining in forest growth. Of this, we must remember, that a large proportion represents lands which have been cut over, and are now covered with immature growth of good timber, or with trees of such kind as have no commercial value. It will, no doubt, be surprising to learn that as a whole, Europe has 28 per cent. of its area remaining in forest. This, however, is very unevenly distributed, and, to be of further use as a point of comparison, we must examine into the timber statistics of each important district. The percentage taken in this are: Sweden and Norway, 40; Russia, 39; Austro-Hungary, 23; Germany, 23; Switzerland, 19; Italy, 17; France, 16; Belgium, 12; Spain, 11; Portugal, 6; Great Britain and Ireland, about 3. None of those countries which have less timber land than above 17 per cent. of their total area have sufficient wood to get along with. They have to import. Making, as far as I can, due allowance, and testing my results by various standards, I am now prepared to assert that we are in danger of a timber famine at any time our forests fall below 15 per cent. of the entire area of the country. At this hour, so far as I can estimate, we have not more than 16.47 per cent. This gives 1.47 per cent. between ourselves and want, so far as our industries are concerned. Of all civilized countries driven to make the largest use of iron and to exercise the greatest economy in wood, Great Britain heads the list. Here then we might suppose there existed the greatest ability to dispense with it. Her importations of wood were valued at \$77,963,399 a year from 1872 to 1876, or \$2.60 worth for each soul per annum.

LEATHER BELTS.

This subject is again being agitated by mechanics and engineers, and has not yet been decided. It would seem most natural to run the flesh side next the pulley, and believe this is the more common custom, though there are many practical men who use their bolts with the grain side next the pulley. The *Scientific American* says:

"There are some questions in practical mechanics that never appear to receive a final and authoritative solution under whatever tests. To this class belongs the question, which side of a leather belt shall run on the pulley face? In some establishments both ways are practiced, and it would seem that under these circumstances, so nearly uniform, the matter might be at last decided. But the foreman or superintendent who prefers the flesh side to the pulley face holds that his belts last longer than those run by the other foreman in another part of the establishment who turns his belts inside out. Of course prejudice has much to do in these cases, and probably prevents a fair conclusion."

A writer in a recent number of the *Journal of Railway Appliances* says: "I advocate running the flesh side to the pulley for the following reasons: Leather is fibrous and curiously constructed, as revealed under a microscope, in the form of a triangle, being very fine and delicate, whereas the flesh part, or bottom of the triangle, has a coarser and thicker fiber, and if it is properly skived will be just as smooth as the grain, although a great deal tougher, and will, therefore, stand more wear and friction. If you will notice belts that have run grain to the pulley for any length of time you will find the grain cracked, and you wonder why. It is because you have subjected the tenderest part of the hide to the hardest usage; the friction has burned the grain, the burning brittled and hardened it; you can never restore it. If you let the flesh part do the work, the grain side being elastic, it will bind the coarser fibrous parts and keep them together."

The principal proprietor of one of the oldest and most extensive manufactures of leather bolting in the country recently declared himself

as positively unequivocally in favor of running the flesh side to the pulley, as the result of more than thirty years' observation, and he offered, among other reasons, the quaint one that the belt run thus was in the natural position of the hide. Per contra, the superintendent of a large establishment, where heavy machine tools are built, runs all his belts grain side to the pulley faces, claiming a much longer life to the belts and a closer contact between belt and pulley faces. In his case, however, all the pulleys are of turned and finished iron. And it is possible that all these disagreements on this question may arise from the difference in the materials of the pulley faces.

Wooden-faced pulleys are coming into use again, particularly for pulleys above twenty-four inches diameter, and leather-faced pulleys are very common. It is undeniable that there is a difference in the holding force of these differing faces, as there is in their materials.—*Dominion Mechanical and Milling News.*

NEW WOOD WORKING FACTORY.

A company was formed about a year ago at Elgin, Albert County, N. B., with a proposed capital of \$10,000, for the purpose of establishing a wood-working factory. The locality is famous for the great variety and excellence of its hard wood, and, having railway connections, is especially adapted to the line of industry undertaken. The directors of the company are all local men whose names are: W. B. Jonah, J. W. Steeves, J. M. Laydon, Babbirk, D. M. Steeves, G. M. Killam, C. S. Horseman, Charles McGeo. During the last spring the site was selected at Elgin Corner, near the terminus of the Elgin Branch Railway. On this, building have been erected of the following ground dimensions: Main building 60x30 feet, with extensions 80x26; engine house 30x40; dry house 25x30. Steam power will be used. An engine of 80 horse power, with tubular boilers, made in the most substantial and improved style by the large firm of E. Leonard & Sons, of London, Ont., has been put in position and is a handsome piece of machinery. It is intended very shortly to make a commencement in manufacturing butter tubs of hardwood; carriage hubs, spokes, etc. The business will be developed into other lines, especially with a view to supply the English market. The two hundred shares of stock in the company have been nearly all taken up in the Parish of Elgin. This speaks volumes in praise of the enterprise of the parish, which is of comparatively recent settlement. Elgin has been always a prosperous and progressive locality, and may be expected to make still more rapid advance when the new industry is once under way.—*Telegraph.*

HAVOC IN THE MAINE FORESTS.

The terribly destructive worms are again at work upon the juniper-trees, which already begin to present the same dead, dry appearance as they did last year—leaves, twigs, and even some of the bark, being devoured by the ravenous swarms of insects. In 1883 countless thousands of juniper and spruce trees in the northern Maine forests were attacked by this worm, and lumbermen were alarmed, while naturalists were puzzled. Whole townships of timber were almost destroyed by the pest in 1883. The trees were stripped of their foliage, and then the worms would bore in under the bark by hundreds, sapping the timber's vitality, and causing the whole growth to appear as though scathed by fire or suffering from a severe drought.

It was noticed that spruce suffered most where the growth was thick, and last winter all the smaller trees were culled out, so as to leave more nourishment from the soil and free air for the larger. Some scientific men recommended this, and others gave it as their opinion that the worms were generated in fallen and decayed trunks, thence issuing to attack sound trees, and claimed that the forests to be free from the scourge, should be weeded out and cleaned like a garden. Others still said that the advent of the worms was a natural advent, one to be expected, and that it would soon pass away. In cold weather the attack did cease, only to be renewed this summer. Many of the trees which were attacked last season are now dying.

They put out green leaves in the spring, but the shoots were sickly, and now look dead and dry.

Maine's forests are extensive, but not inexhaustible under such conditions as now prevail. The axe makes a drain of 150,000,000 to 200,000,000 feet a year on Penobscot's banks alone, and probably 500,000,000 feet a year in the whole State, and cyclones have levelled whole townships of timber.

TREE FALLING BY DYNAMITE.

A cartridge of the explosive substance is placed in a channel bored directly under the tree to be operated upon, and when exploded the tree is simply forced up bodily and falls intact on its side. If this system works as well as it is reported to do, the tree is not fractured by the force of the explosion, and the wood at the base of the trunk can be utilized. An argument in favor of this method is that it brings up the roots of the tree, and thus dispenses with the tedious process of grubbing the roots of the felled timber.—*Mechanical World.*

Every lumberman will appreciate the convenience in handling timber after an artificial tornado or cyclone has left the trees in whatever direction they may fall, with the roots and a large quantity of earth intact, and left standing in the way of the teamster in skidding. Many of the lumbermen during the last season have seen a little too much of this haphazardness in forests, where the high winds have been paying their attention to tree felling at the cost of the owners of the timber. The lumberman, however, takes as much interest in felling a tree as in any part of the lumber business. The direction in which it must fall is carefully considered, and it is placed in the very spot intended by the skill of the chopper, without injury to the timber or a rooted stump turned up in the way of hauling. What would be gained by the wood at the base of the trunk would not pay for the powder, however tedious may have been the process of grubbing the roots of the felled tree.—*Cotton, Wool and Iron.*

MILL AND SKATING RINK FLOORS.

For about three years past there has been a growing demand for birch, beech and maple lumber for factory flooring instead of pitch or southern pine formerly in use. There is now a very fair demand for birch, beech and maple lumber, and a number of large mills have used it in preference to the southern pine.

The lumber is claimed to be more durable than southern pine and will not sliver as that wood does when worn. It is also cheaper. A lot of floor boards of these hardwoods, dressed and kiln-dried, can be delivered at \$28 per thousand feet, while southern pine flooring would cost from \$33 to \$34.

A considerable demand for this hardwood lumber for flooring in roller skating rinks has also sprung up within the last two or three years. These rinks have become very popular, and there is hardly a New England town of importance which has not, or which will not soon have, one. As the wear on the floor is very great only the best lumber is used. The boards for this purpose are carefully selected and will command from \$40 to \$45. They are from 2½ to 4 inches in width, while the boards for mill flooring are from 3½ to 5½ inches wide. With the use of this flooring in skating rinks there has also arisen a considerable demand for it for dining rooms and hall ways, where it has to a great extent displaced the ash, chestnut and walnut, being from one quarter to one half less in price, and it is claimed, being full as durable. It is being used somewhat also in public buildings.

This hardwood lumber is obtained mainly from New Hampshire where there are large forests of these woods. There is considerable obtained also in Vermont. Up to its use for flooring, this class of timber was held to be of very little value and its main use was in the manufacture of clothes pins, pails, hay rakes, and a number of such miscellaneous articles. The timber lands on which it grows were valued mainly for their spruce and hemlock. The growing demand for hardwoods, however, has caused a considerable increase in the value of such

lands. About all the mills in that section now have suitable facilities for the sawing, dressing and kiln drying of this lumber, while up to a few years ago very few of them touched it.

The business in this class of lumber has now become important, and is steadily growing. It promises to become very popular for flooring in hall ways, dining rooms, public buildings, &c., as its durability and cheapness become better known. Though its use for mill flooring is large and increasing, it is not claimed that it will drive southern pine out of the market. This hardwood flooring is not used in the Fall river and in the New York and New Jersey mills as the southern pine, coming by water freight, can be laid down about as cheap and, in some instances, probably cheaper. And again, the growing demand for the hardwoods will in time probably lead to an advance in prices. Of the three varieties maple is the best, but is not so plenty as the birch and beech, and in large lots they are sold together. The growth in the trade of this lumber has changed the almost waste lands of northern New England into timber lands of importance.—*Boston Commercial Bulletin.*

DEFENCES OF THE BUTTERNUT.

In the new world, however, the walnut family has been driven by its pressing animal foes to adopt far more vigorous and active defensive tactics. The great American forests, says Grant Allen in the *Popular Science Monthly*, are the very paradise of squirrels, and the numerous other rodents of the northern plains, to the screaming monkey and the powerful billed parrots of the tropical South American jungles. Where enemies are so numerous and so persistent, only the very hardest and best protected nuts can survive; and so the nearest American representative of the European walnut is the butternut of Canada and the Northern States. A far more formidable and uncompromising mouthful to tackle than its easy-going old world cousin. The outer husk of the butternut resembles pretty well that of the walnut; but its very stony shell is extremely difficult either to pierce or to crack; the sharp ridges on its surface are naturally very baffling to the teeth of squirrels; and even when you have at last made a good hole in it, the inside can hardly be extracted in pieces of any bigness, because of the horny intervening ridges. This American walnut, in fact, is a far cuter and smarter form of seed vessel than its effete European relative. There is every reason to believe, indeed, that the butternut is an advanced and improved descendant of the same primitive geological ancestor as the Greek walnut. Only, while the walnut has been standing still in peninsular Greece and Anatolia for innumerable generations, the butternut has been going ahead with true American impetuosity, inventing one new improvement or modification after another, till it has now attained to almost absolute perfection in its adaptation to its own peculiar walk in life.

Sudden Activity in the Timber Trade.

The *Timber Trades Journal* of July 19 says: Following an exceptionally dull season, it is stated that during the past week great activity has been displayed at Sharpness Docks, which have presented an unusual sight both in the number and size of the vessels docked. Six steamers, representing a net tonnage of 7,200 tons and a gross tonnage of 11,000 tons, were discharging, and four others, which have been moored there for some time, making in all a tonnage of 10,863 tons net, and 16,754 tons gross. In addition to this there were several large sailing vessels in the docks. Amongst the steamers discharging was the *Wydale*, from St. John, with 47,805 deals, &c., for Messrs. J. Bland & Co.

Prospects of the Lumber Trade.

The stock of lumber at the mills and in the markets all over the Northwest is accumulating relatively faster than is healthy for trade under the current rate of distribution. Nobody is more sensibly aware of this than the manufacturers, as their proposition to close down in September shows. Much interest is manifested as to the result of the meeting in this city on August 20, but few anticipate that any considerable shutting down movement will grow out of it.—*Northwestern Lumberman.*