THE CANADA LUMBERMAN

AND MILLERS' MANUFACTURER AND MINERS GAZETTE.

PUBLISHED SEMI-MONTHLY.

The only Newspaper devoted to the Lumber and Timber Industries published in Canada.

SUBSCRIPTION $2.00 PER ANNUM.

VOL. 2. PETERBOROUGH, ONT., NOVEMBER 15, 1882. NO. 22.

DISTRIBUTION OF FOREST TREES.

The paper of Mr. Bell, of the Geological Survey, on "The northern limit of the principal forest trees of Canada, east of the Rocky Mountains, is embodied in the seventh report of the Montreal Horticultural Society. The law by which this distribution takes place has not been clearly traced or ascertained. "The range of any species," Mr. Bell says, "is not governed entirely by the mean annual temperature. The extremes of heat and cold in the west, as compared with the milder winters and cooler summers of the east, with about the same mean temperature for the year, appear to be the chief cause of the marked difference in the character of the woods in the two regions, since there is not a sufficient disparity in the amount of the annual precipitation to account for it. A great difference in the moisture of the air in the two regions, otherwise resembling each other in climatic conditions, has a powerful effect on the growth of forests, and the dryness of the air in the western prairie and arid regions is, no doubt, the chief cause of the absence of timber." Mr. Bell adds that "difference in the composition of the soil appear to have a local effect upon the distribution of forest trees." Nearly half a century ago, Dr. Richardson made a similar remark. He attributed to the nature of the soil what he called, perhaps on insufficient data, the sub-arctic vegetation on the northern shores of Lake Superior, while farther north was found a vegetation suited to a more southern region. There may, however, be other causes that affect the local distribution of forest trees. It is well known that where one kind of forest tree is destroyed by fire another takes its place; and it is therefore reasonable to conclude that forest fires have played a part in the local distribution of forest trees. So constant is the tendency for one kind of trees to displace another that, in some countries of Europe, the bogs have embalmed a regular succession of trees, each above the other.

In contrast with the great variety found in the United States, one is struck by the smallness of the variety of forest trees in Canada; three hundred and forty against ninety. Sometimes, however, fifty varieties are found on a single farm. And of this ninety some of the best notably the black walnut are becoming almost extinct. Here is a reason for planting, not only valuable native trees which are in danger of extinction, but also several foreign trees which thrive well in our climate. It is really astonishing to what a small extent this has been done. Let any one visit the Horticultural grounds, at Toronto, and he will be astonished at the negligence there displayed. It is so in our parks, and with few exceptions in private grounds.

Mr. Bell's paper, with the accompanying map, may be taken as fairly indicating, in a general way, the distribution of the forest trees of the country, though it is probable that a necessity for correction in several particulars will here after be found. Of the distribution of the Tulip tree *(Liriodendron tulipifera)* he says. "At Niagara Falls, and in some localities westward near Lake Erie." This tree is found nearly two hundred miles north of the Falls of Niagara, north of the southern shore, on Foote's Bay, Lake St. Joseph. And even this may not be its extreme northern limit. The flowering Dog Wood, which is abundant on the flats of the Humber, is spoken of by Mr. Bell as extending only as far as Dundas. And it is found more than 100 miles north of the Humber, and the farther north the larger it grows. To the Butternut, Mr. Bell scarcely assigns a sufficiently wide range on the north. We have no doubt that, as observation extends, other corrections will have to be made.

The same report contains a paper by the Hon. H. G. Joly, on "The Returns of Forest Tree Culture." Some authorities say that an acre of black walnut, thirty years old, is worth $20,400. This asumes that 680 trees can be grown to the acre; and we agree with Mr. Joly that the number is too great. Mr. Joly has gone into the experiment of tree-growing himself; and we trust that his example may be followed by many others; "they have," in the words of Mr. Joly, "no idea what source of pure enjoyment they will be creating for themselves." This enjoyment may grow to an absorbing passion, and it is gratifying to know that its indulgence would be of great benefit to the country.—*Monetary Times.*

PAPIER-MACHE FOR BUILDING.

A trade journal has the following regarding papier-mache.—It may claim to rival iron in the multiplicity of its industrial applications. In Europe it is employed to a considerable extent in architecture, from a complete church building in Bavaria (capable of seating 2,000 persons), having columns, walls, altars, roof and spire of papier mache, to the finest traceries of a Gothic screen. Some of the most tasteful halls in Britian and on the continent are finished in it, in preference to wood. The mantels, and the mirror frames they support, are of its composition, and, strange as it may seem, the very chandeliers, in their gilded elegance, are of this humble material. Its use in architecture can literally have no limit, for no one to-day can say what may not be made of it. In toys, tables, bijouterie of all kinds, we have examples of its extensive uses, and suggestions of its future applications. Papier mache never cracks, as wood, plaster, terra-cotta, etc., will do. In the same articles it can be made, if required, far lighter than plaster, terra cotta, metal, or even wood. Neither heat nor cold affects it; it can be sawed, fitted, nailed, or screwed, quickly adjusted or removed, gilded, painted, marbleized, or bronzed. It can be made light as cork, or heavy as stone, never discolors by rust, as will iron, is not affected by temperature or oxygen, as is even zinc. It can be made for a given thickness stronger than any white or rare marbles, and is even tougher than slate, quite as hard, and will not chip corners nor crack off in strata. One of the great advantages of papier-mache is that it can be produced very cheaply. In architecture it can be supplied nearly at plaster prices, and, taking into consideration the price of putting up, costs no more, and sometimes even less. This depends on the size of the ornament, the larger being cheaper in proportion. It can be made to imitate the rarest marbles, as it takes a polish superior even to slate, and costs not half as much as the preparation of plaster of Paris, known as scagliola, while it is infinitely stronger. Pedestals, columns, newel posts, vases, clocks, and multifarious other articles are made of it in elegant and durable forms. Possibly, as a recent writer remarks, when the forests of the globe are regarded as curosities, and the remaining groves are preserved with the same care that has guarded historic trees, the cast off rags of mankind, and the otherwise useless weeds, reeds and grasses of marsh and swamp, will take the place of timber in construction, and many will welcome the change, if for nothing else than that it will obviate much of the nuisance of frequent repaintings.

SUPERSEDING THE STEAM ENGINE.

Israel R. Blumenburg, of Philadelphia, claims to have invented a motor that will supplant steam. It is claimed that the practical utility of his invention has been demonstrated to the satisfaction of experienced engineers and scientists, and a company has been formed to introduce it in manufacturing establishments. Mr. Blumenburg claims to utilize a principle long known to scientists—the reactive force of bi-sulphide of carbon. The heretofore insuperable difficulty was to devise means to control the power, and this was the inventors first task. Having accomplished this, a new obstacle arose. It was found impossible to make a joint so mechanically perfect as to hold the vapor, which is much more penetrative than steam. A suitable joint-packing became necessary, the inventor hit upon it, and that forms a material part of his invention, making the success complete. The chief advantages shown for Mr. Blumenburg's device are cheapness and safety of operation. A leading manufacturing chemist of Cleveland, who has watched the progress of the motor with scientific interest, says the inventor will be able to give manufacturers a very economical and efficient power, doing away with boiler explosions and the consequent destruction of property and life. From an experience of many years in handling bi-sulphide of carbon he is prepared to say that with Mr. Blumenburg's apparatus much less danger is to be apprehended than from the ordinary steam engine. The economy of the machine consists in its capacity to produce, with a temperature of 180 degrees Fahrenheit, the same power as is obtained by steam with a temperature of 350 degrees. Mr. Pedrick, the company's president, says he will run his establishmens with this new motor within 60 days, and that it will make steam worthless except for heating purposes.

CURIOSITY OF TREE GROWTH.

An interesting observation on tree rings is recorded by Prof. Bachelart in *La Nature.* During a visit to the ruins of Palenque, Mexico, in 1859, M. Charney caused all the trees that hid the facade of one of the pyramids of the place to be cut down. On a second visit in 1880, he cut the trees that had grown since 1859, and he remarked that all of them had a number of concentric circles greatly superior to their age. The oldest could only have been 22 years of age, but on a section of one of them he counted 250 circles. A shrub, 18 months old at most, had 18 concentric circles. M. Charney found the case repeated in every species, and in trees of all sizes. He concluded that in a hot or moist climate, where nature is never at rest, it may produce, not one circle a year, as with us, but one a month. The age of a monument has often been calculated from that of trees that have grown on its ruins. For Palenque, M. Larainzar calculated 1,700 years, having counted 1,700 rings in a tree. M. Charnay's observation requires the number to be cut down to 150 or 200 years, making a considerable difference, a matter of 1,500 years. Prof. Bachelart asks whether M. Charnay took account of certain colored rings which some tropical trees present in cross section, and which are to be distinguished from the annual circles.

JOINERY FOR ENGLAND.

The *Timber Trades Journal* says:—Further information has reached us respecting the intended importation of American yellow pine mouldings and joinery work. There can be no doubt but that a vigorous effort will be made next season to create other forms of American manufactured wood. Some novel forms of manufacture will be introduced, and, from what we can gather, every effort will be made to introduce them to the favourable notice of the trade here. The best recommendation which American joinery has is the really splendid quality of the material of which it is usually made. Few home made articles at all approach it in this respect.

When examining a pile of ready-made doors from the States we frequently turned over door after door without finding a blemish. For moulding and architraves it may be quite possible to create an active demand, and with respect to pine doors, it may be said that this now exists.