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 First Prize, Industrial Exhibition Toronto, 1879
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 International Medal, Centennial Ex. Philadelphia, 1876



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CAR WORKS.

A Sun reporter who casually called at Messrs. Jas. Harris & Co's car works lately was allowed an opportunity of inspecting some of the new machinery and appliances recently added to that extensive establishment, and the introduction of which has enabled the firm so to increase their facilities that they are now able to turn out two first-class passenger cars a month and four freight cars a day. The machinery which has been lately introduced consists of a new hand saw (made by the firm), a neat of six emery wheels, a saw gummer, an automatic planer knife grinder, and a new planer and matcher. In another part of the works was seen a shving machine, which is commonly known as an irregular moulder; a planer, (that will plane a stick 16 in. square by 40 ft. long,) the only one of like capabilities in this city, a morticer and double borer, and a gaining machine, a most ingenious contrivance, of the invention and manufacture of Messrs. Harris & Co. The machinery above enumerated has been mostly made by the firm on their own premises, and has been recently put in position to meet the requirements of their largely increasing business. To meet the consequent extra demand for power the proprietors have built a 40 horse power engine (which was constructed and in full operation within four weeks from its commencement), and have supplied by Messrs. McLaughlin with a new boiler. This driving power is used exclusively for the car works. To turn out such a large number of cars as the capacity of the works will allow, Messrs. Harris & Co. give employment to fifty hands. The cars at present in hand consist of two first class passenger cars for the Grand Southern Railway, one passenger and one mail car for the Quebec and Sorel Railway, and two hundred flat cars for the Canadian Pacific.—*St. John Sun.*

WOOD PULP.

The mills of the Canada Paper Company at Windsor add to the old process of producing paper from rags and ropes the extensive production of paper pulp from wood by a chemical process. The wood is cut by a powerful rotary machine into chips, which are shovelled into immense revolving boilers, where they are boiled with a mixture of soda ash and water, previously prepared. The boiled mass comes out thoroughly reduced to soft pulp, the rosins and other ingredients of the wood, except the fibre, having passed into the liquor. This black liquor is then passed into an oven of enormous size, where it passes down, as it were, from story to story, and finally over a long bed of coals. Here it is dried away and burned; everything that is not soda ash is turned into vapor, and the vapor is consumed by flames passing over the surface of the mass. The soda ash then becomes again fit for use. The pulp is secondly washed with water, and the product is used for the first washing of the next lot, and finally with water again, the product of which is drained away. The pulp then goes through a complicated process of straining, and bleaching with chlorine, when it is ready to mix, in proper proportion, with other stock. The pulp made from wood by this chemical process is much better than what is merely ground. Mr. Angus of the Canada Paper Company, is erecting pulp mills at Angus on the Quebec Cent.

he expects to prepare that article for the paper mills of the Dominion. It seems strange that Canada should not long ago have become an exporting country for what now is a large article of commerce and one who is so peculiarly well circumstanced to produce.—*Montreal Witness.*

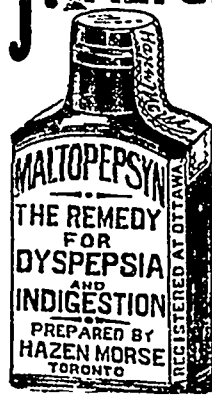
Chloride of Lime for Trees.

Le Cultivateur, a French journal, says that if chloride of lime be spread on the soil or near plants, insects and vermin will not be found near them, and adds:—"By its means plants will easily be protected from insect plagues by simply brushing over the stems with a solution of it. It has often been noticed that a patch of land which has been treated in this way remains religiously respected by grubs, while the unprotected beds all round it are liberally devastated. Fruit-trees may be guarded from the attacks of grubs by attaching to their trunks pieces of tow smeared with a mixture of hogs' lard, and ants and grubs already in possession will rapidly vacate their position. Butterflies, again, will avoid all plants whose leaves have been sprinkled with lime-water."

Tree Growth.

Careful observations have shown the following to be about the average growth in twelve years of several varieties of hard wood when planted in groves and cultivated: White maple becomes one foot in diameter and thirty feet high; ash-leaf maple or box elder, one foot in diameter and twenty feet high; white willow, eighteen inches in diameter and forty feet high; birch and white ash, ten inches in diameter and twenty-five feet high; black walnut and butternut, ten inches in diameter and twenty feet high, yellow willow, eighteen inches in diameter and thirty-five feet high; Lombardy poplar, ten inches in diameter and forty feet high.

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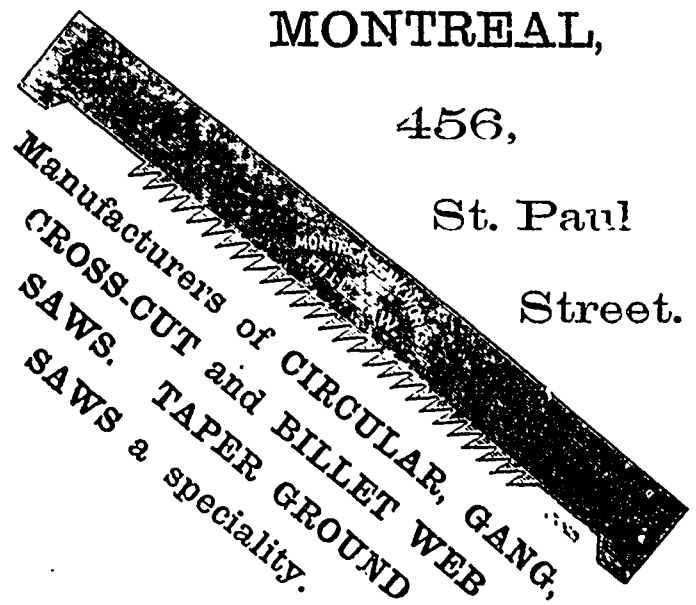
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