

THE Ottawa Car Company are building some electric cars for the Hamilton Street Railway Company

AN electric lighting station at Bear River, N. S., is in course of construction, and the town will soon be lit by electricity.

COL. J. M. CLARK'S proposition to equip London, Ont., with an electric car system has been rejected by the council.

BRACEBRIDGE, Ont., has passed a by-law to raise \$25,000, partly for the purpose of putting in an electric light plant

THE Aurora, Ont., electric light plant has been sold, the town considering the electric light too expensive for their means

THE new power house of the Wingham, Ont., Electric Light Company is being fitted with a large quantity of machinery. water-power will be employed

THE Stormont Electric Light and Power Company of Cornwall offer to put in an arc light plant there supplying 28 lights at a cost of \$102 per lamp per year.

HENDRIE & Co., of Detroit, who are owners of the St. Thomas, Ont., Street Railway, contemplate turning it into an electric road and extending it to Port Stanley

THE Montreal Street Railway Co. are about to make an experiment for the removal of garbage by electric cars. Six cars fitted for the purpose are to be run a month on trial

THE Northey Man'g Co., of Toronto, now make a portable pump operated by electricity. One of these pumps is now in operation at Gooderham & Worts' distillery, Toronto.

THE plant of the Sherbrooke, Que., electric light station, which has lately been enlarged, now consists of twelve dynamos, the power for which is furnished by two very large turbine wheels.

THE Westinghouse Co., for whom Ahearn & Soper are Canadian agents, has perfected a dynamo which automatically produces just the amount of current needed for any number of lights within the capacity of the machine.

R. R. DOBELL, Quebec, president of the Canadian Atlantic Cable Co., has received an offer for laying the company's cable from some point on the Straits of Belle Isle to a point on the west coast of Ireland. The capital required is \$2,500,000, and the Dominion Government will probably be asked to grant a subsidy.

D. W. CLARK & SONS, of St. John, N. B., have obtained incorporation to carry on electrical works in Carleton, Fairville, and adjacent suburbs. Capital, \$22,000. The incorporators are Daniel W. Clark and Daniel C. Clark, contractors; Charles R. Clark, electrician; William Bruckhof, merchant, and George F. Calkin, agent

THE St. John's, Que., Electric Light Co., who have a lighting contract with the city, some time ago made an offer to increase the number of lights, if the city would pay the bare cost of the addition. Finding, however, that the city hesitated, and that misrepresentations were being made as to their motives, the company have now finally withdrawn their proposal

THE city council of Montreal last month adopted the report of a special committee in favor of a charter to the Montreal Belt Line Co., who propose building an elevated electric road connecting the city with suburbs east and west. It would enter the city by St. Catherine st., thence to Craig by Delormier Ave., and on Craig west to Little Craig, and thence to the western suburbs by St. James st. The company are to pay the city \$2,000 a mile and be responsible for all damages arising from the construction of the road

THE annual general meeting of the Montreal Electric Street Railway Company took place last month. The chairman, President Forget, stated that the receipts showed a satisfactory increase over those of last year's, in spite of the heavy expenditure which had been incurred owing to the many changes and extensions in the road. The month of October showed an increase of \$9,686, or 15 per cent. over October last year, and he expected that in a short time the full benefits of their change to the electric system would show themselves in a still more marked manner. The full length of the lines will be about 85 miles, including 20 yet to be built

THE ROAD TO ROAD REFORM.

A much-needed improvement in Canada is road reform; the growth and prosperity of every country depends on good roads. The extension of the railway systems may give greater facilities for the transport of produce in large quantities, but the common road or highway is the essential part of the prosperity of the railway. Without the common road how could freight reach the railway, or how could communication be

kept up in the several parts of the country? The whole country, and the Province of Ontario in particular, has grown rapidly and increased in wealth, financial and agricultural; of late years, the products of cheese and butter factories alone are now an invaluable asset to the province; these institutions call for the daily and constant use of the public road every day of the year. The farmer has no choice now, he must take his milk to the factory every day; his duties are greater than they were 20 years ago, when he could lay off for a few weeks in fall and spring, waiting for good roads. The subject of road reform has not been neglected during this period, and of late years has received much attention by the press, by professional journals, and by universities, many of whom have given prizes for essays on the subject. This has been of advantage, and as far as it has been carried has done all the good which can be done by this means. The time has come when farmers' institutes, county councils, dairymen's associations, and such like must stop reading papers and take definite action.

The action of the Canadian Institute, in resolving to call a convention to discuss the question, and take steps to form a national association for road reform, is one which should commend itself heartily to all interested in road reform. Emanating from a purely scientific body, the proposal is based on principles which affect the weal of the commonwealth, the institute having no end to serve but the advancement of the country. We are particularly pleased to note this action, and we wish the institute complete success in the valuable work in which they have engaged. The resolutions are given in full in another column.

NOTES ON WATER WHEELS.

BY A. C. M'CALLUM, M.E.

Take care of your water wheel; most men expect when they get a turbine that because it is made of iron that it is going to last for ever. It simply means that you place the wheel in the penstock, let the water in upon it, and after it is started let it continue to run, year in and year out, never taking the water off the wheel to look at it, until it suddenly breaks down; you are surprised that it should do so—you get out of patience with it and wish it far enough away.

A well-constructed turbine, if properly set in the penstock, and if looked after every spring and fall, would last a life time, and give as much power and as high a percentage of efficiency at the end of thirty years as it did at the end of the first thirty days. Every wheel should be examined within the first two months after it is put in, because most penstocking made of wood settle somewhat when the water is let in upon them for the first time, together with that of the weight of wheel and shaft with gears.

If the wheel is out of plumb, the shape will wear heavily upon one side, and cause the runner or wheel to rub against the casing, destroying the wheel, and reducing the efficiency considerably. I noticed the other day, in passing through a machine shop, in —, a Leffel water wheel taken out of a large woolen factory, where the penstock was completely rotten, and the wheel had been grinding against the case, and cut away a large portion of the edge of the lower buckets, necessitating a patch upon them of about 4 inches by 5 inches. I don't think they had any idea that this