

dam, a drain was formed by the masonry between six inches and nine inches square, and from these drains funnels were carried up, in different vertical transverse planes of the dam, to above backwater level." There are 27 of these funnels in a length of 66 feet of the deepest part of the dam, which empty into a longitudinal tunnel 4 feet 3 inches by 2 feet 6 inches, from which a cross tunnel to face of dam serves as an outlet and for access to main tunnel.

The tunnel under the River Mersey was one of the most difficult parts of the work, and the author states was the first tunnel ever constructed by means of a shield, under a tidal or other river, through entirely loose material. This tunnel had a cast iron lining of nine feet interior diam., and it was driven through loose water bearing strata 51 feet below high water. Inside the tunnel was laid the aqueduct, consisting of two 32 in. diam pipes, of riveted steel plates. The author says the site for this tunnel was favorable for laying the pipes in the muddy bed of the river, but that parliamentary exigencies forced upon the corporation the construction of the tunnel, for which the site was the worst possible.

These water works were begun in July, 1881, finished July, 1892. The total cost has been about £2,300,000 for a supply of 14,000,000 gallons per diem, but the author claims it can be increased to about 40,000,000 gallons per diem for additional cost of £1,600,000.

Electric Glashes.

W. B. CLOSE is now manager of the Toronto Suburban Street Railway Company, Toronto Junction.

THE new Victoria Bridge will carry the wires which will bring electric power from Chambly to Montreal.

E. SLADE has gone into the electrical supply business, in Quebec, and will handle chiefly lighting fixtures.

IN Quebec the Lower Town Street Railway Company has sold its franchise to the new electric company for \$20,000.

WORK is to be hurried on the Quebec street railway. An opening on the 22nd is what the management is working for.

THE Brantford Electric and Power Co. is now running its new turbines, which are capable of developing 600 horse-power each.

NIAGARA FALLS SOUTH, ONT., has granted a franchise to the Lundy's Lane Electric Railway to run over certain streets of the town.

THE agitation for an electric railway to connect St. Catharines and Beamsville, Ont., is going on, and there are prospects of success.

A. O. GRAYDON, C.E., city engineer, London, Ont., is one of the provisional directors of the Chatham City and Suburban Railway.

WM. SNIDER & Co., Waterloo, Ont., electric light, have commenced building their engine room. A 75 h.p. Corliss engine will run the dynamos.

It is proposed to extend the London, Ont., Street Railway beyond the asylum for the Insane to Pottersburg, and also to connect the city with the town of Lucan.

A CORRESPONDENT of the St. Johns, Que., *News* says that the proposition for an electric railway from Montreal running through the Eastern Townships to Sherbrooke, is not taken seriously by the township people.

COATES, SON & Co., bankers, London, Eng., recently placed an issue of £50,000 of the Montreal Royal Electric Company's shares, there being more offers than were applied for in the company's circular. The issue price was 140.

THE Aylmer Electric and Manufacturing Company, Ltd., applies for an Ontario charter to supply heat, light and power by steam and electricity in Aylmer, Ont.; capital, \$20,000; the incorporators are H. H. McDiarmid, D. C. Davis, J. Simpson, Aylmer; J. W. Campbell, W. H. Irving, Toronto.

It is probable that Hamilton, Ont., will appoint an electrical engineer as assistant to the city engineer, owing to the increasing share of the engineer's duties which have to do with that subject. G. Black, Hamilton, is favorably mentioned for the position.

F. E. HARVEY, doing business as the Citizens' Telephone Exchange, with office at Waterloo, Que., has assigned. The assets are placed at \$11,000 to \$12,000, and the liabilities at \$6,000 to \$7,000. The principal creditors are: C. E. Harvey, Waterloo, \$2,600; E. T. Bank, \$1,000; John Bradford, Granby, \$1,000; W. N. Call, Waterloo, \$850. C. E. Harvey is curator.

A TELEPHONE cable has been laid across the inlet between Moodyville and Vancouver, B.C., by the New Westminster and Burrard Inlet Telephone Company, under the supervision of H. W. Kent.

HODGKINS & HOSHAL are building a factory, 40 x 60 feet, for the American Carborundum Co., Niagara Falls, Ont., in which the company will begin the manufacture of its product by June 15th, in order to hold its charter. Sufficient power to carry on work on a small scale has been obtained from the electric light company.

THE Consolidated Railway Company's systems in Victoria, Vancouver and New Westminster, B.C., are now owned and operated by a new company formed for the purpose of acquiring them in London, England. The new company, which is called the British Columbia Electric Railways Company, Limited, took possession on the 15th of April and are making a number of improvements.

JUDGMENT has been given in the first of the trials arising out of the tramway disaster at the Pointe Ellice bridge, Victoria, B.C., May, 1896, the jury deciding that the city was liable for the disaster. The plaintiff, Mrs. Gordon, whose husband was killed, was awarded \$10,000 damages, \$7,000 to herself, \$1,000 to the eldest son, \$1,500 to the youngest child, and \$500 to a step-son. A number of other suits will follow.

THE longest electrical transmission plant in the Dominion of Canada was put in operation a few days ago near Three Rivers, Que. This plant was installed by the Royal Electric Company of Montreal, for the North Shore Power Co., and transmits 700 h.p. from Grand Chute, on the Batiscan River, a distance of 17 miles, to the city of Three Rivers, Que., where the power is used for arc and incandescent lighting, as well as for power. S.K.C. two-phase apparatus is used throughout. A full description of this long distance high voltage plant will be published very shortly.

THE Hamilton *Times* says recently of the Cataract Power Co., of Hamilton, Ont.: A company has been formed to take Lake Erie water from the new Welland Canal at Allanburgh and from the Chippewa River at Port Robinson, and turn it into Lake Ontario via DeCew's Falls, utilizing the water power of the falls to generate electricity, which will be conveyed to Hamilton to pump Lake Ontario water into the city, to run our street and suburban railways, to light the streets and to move the machinery in the factories. J. Patterson expects that he will have 5,000 horse-power available four months hence, and 50,000 to 60,000 horse-power at a later date.

THE Toronto Street Railway Co. is celebrating the Queen's Jubilee, putting on the road 20 handsome open cars, to be known as "The Jubilee Set." Each car is 27 feet long, and 7 feet 6 inches wide, 6 feet longer than the present open cars. The extra length will allow a space of four inches more between the seats, adding greatly to the passengers' comfort. The cars are painted white and gold, carry bicycle racks on the back, and have double steps at the sides. The latest style of motor made by the Canadian General Electric Co. is used, and each car will seat 70 passengers. Manager Wanklyn and Superintendent Gunn maintain that the "Jubilee Set" are the finest open cars on the continent.

THE Sherbrooke Gas and Water Co., Sherbrooke, Que., has recently made extensive additions and alterations in its plant; the station has been enlarged, and there have also been installed two additional water wheels. The electrical plant has been increased by one 180 K.W. and one 75 K.W., "S.K.C." two-phase generators, in addition to the 75 K.W., S.K.C. two-phase generator which was purchased about a year ago from the Royal Electric Company, and which makes the plant one of the most complete incandescent plants in the Dominion. The management of the company has installed a power circuit from the alternating two-phase apparatus, and are now serving power and light successfully from the same generators and lines.

THE Packard Electric Co., Ltd., St. Catharines, Ont., has recently placed upon the market its type "L" transformers. These transformers are claimed to be unique in design, and their efficiency at all loads is guaranteed by the makers to be greater than that of any other. The Packard Co. will, at the request of any central station, conduct tests for core loss, copper losses, regulation and insulation, of their type "L" transformers in competition with those of any other make. It also guarantees these transformers not to increase over 40° in temperature after running full load for eight hours. The all day efficiency is very high. One unique feature of these transformers, which will appeal to the central station and their line men, is that they require but one cross-arm upon the pole, and do not require any separate hangers; the arrangement for hanging being permanently attached to the transformer.