

destroyed by fire; and for a new convent which the board intends to erect.

DARTMOUTH, N.S.—Mr. Alfred Elliott, clerk, will receive tenders until the 15th inst. for supplying special castings, water valves, lead pipe, corporation cocks, service boxes and cement required for the extension of the waterworks.

BERLIN, ONT.—The Town Council will shortly call for tenders for the construction of sewers on certain streets. A new artificial stone walk will be constructed on King street from the American House corner to the Bank of Commerce.

NIAGARA FALLS SOUTH, ONT.—Mr. S. Lockart is preparing to erect a new house on Ferry street. Mr. Herman Misener contemplates building a residence for himself on Peter Street, and will commence work in a few days.

BAYFIELD, ONT.—A committee of the Huron county council, including the county engineer, were in the village recently for the purpose of locating the bridge to be constructed across the river here this summer. It was decided to select a site further up the river.

TORONTO JUNCTION, ONT.—A by-law has been introduced in Council to issue debentures for the sum of \$10,000 for the extension of the waterworks system and grading Glenholme drive. A cooper shop and barrel warehouse will be erected in connection with Mr. Campbell's flour mill.

BROCKVILLE, ONT.—Mr. George Allan, architect, has prepared plans for extensive alterations and improvements to Wall street Methodist church. The seating capacity will be increased to accommodate fourteen hundred persons. The total cost, including carpentering and upholstery, will be about \$20,000.

DELOKANE, MAN.—The Chairman of the Board of Trustees of Broadway School District No. 409 invites tenders until Saturday, the 22nd inst. for the erection of a brick veneered school building in above district. The work will be carried out under the supervision of Mr. W. H. Shillinglaw, architect, of Brandon.

EGANVILLE, ONT.—Tenders are invited by the Atlantic and North-west Railway Company until the 25th inst. for the work of clearing and grading the Northern Ontario extension of the above railway. Specifications may be seen at the office of Mr. C. W. Spencer, General Superintendent, Montreal, to whom tenders are to be addressed.

NEW WESTMINSTER, B. C.—One of the most important works that has been undertaken in this province will for some time be the construction of a traffic bridge over the Fraser river at this place, and for which is now being asked from the city and the local government. The bridge is estimated to cost \$600,000, and will be constructed by certain railway companies.

OWEN SOUND, ONT.—The two story brick building between Messrs. Parker & Co's and R. Wightman's drug stores will be pulled down in a few days to make room for a large new building which the Parker estate propose to erect. Four plate glass windows will be placed in the front of the building, which will be fitted with all modern improvements.

WINDSOR, ONT.—Mr. James McKellar, of this town, has purchased Bell's island and will erect a clubhouse thereon, at a cost of \$5,000. C. L. Potter will erect a residence on his property on Victoria avenue, south of Wyandotte street. Messrs. Maycock & Newman, architects, are preparing plans for the grand stand to be erected at the new mile track driving park.

VICTORIA, B. C.—It is stated on good authority that the Dominion Government are negotiating for the site of the Canada Western hotel on Government street, the intention being to sell the sites of the present Customs House and post office and build a large building on the hotel site for these purposes. It is also reported that negotiations are expected to be completed within a fortnight.

NANAIMO, B. C.—Mr. Kelly, architect, has prepared plans for a large three-story brick and stone block to be erected on Chape street, part of which will be fitted up to meet the requirements of the Free Press office. The block will have a frontage of 50 feet on Chape street, the first story of which will be used as a large store, and having plate glass front. Tenders for its erection will be called for in a few days.

LONDON, ONT.—Messrs. John Ferguson & Sons will make extensive alterations to their warehouse on King street. Mr. J. A. Gauld, architect, 73½ Dundas street, invites tenders until Saturday next, the 15th inst., for the erection of two-story double brick house on Queen's avenue. The City Engineer has granted the following building permits; J. S. Boomer, King street, brick residence, \$4,000; Mrs. Howell, two-story brick residence, cost \$1,500.

GUELPH, ONT.—A special committee has recommended to the Council that Mr. W. Chipman, C. E., be engaged to prepare a plan and estimate of cost for a system of sewerage for the town, also that a new fire hall be erected, at a cost of \$8,000. Messrs. Burrows Bros. contemplate erecting a dye house as an addition to their works. Mr. John Day, architect, will receive tenders until Saturday the 15th inst., for the rebuilding of a store lately occupied by Messrs. Pringle & Clums.

KINGSTON, ONT.—Messrs. Gillen & Gillen, architects, have drawn up plans for a first class

hotel to be erected on the property of Lieut.-Governor Kirkpatrick now occupied by Messrs. James Gowdy and W. McRossie, on the corner of Princess and Ontario streets. Mr. James Adams, clerk of works at Kingston penitentiary, recently visited Ottawa in connection with the additions which are to be made to that institution. Two isolation buildings are to be erected at a cost of about \$25,000, and plans are now being prepared at the Public Works Department at Ottawa.

WINNIPEG, MAN.—Mr. H. McCowan, architect, is inviting tenders for the erection of a packing house for Messrs. J. Y. Griffin & Co. Additions and alterations will be made to the brick veneer residence of Mr. R. P. Rollin on Garry street, under the supervision of Mr. George Browne, architect. The congregation of St. George's church have decided to erect a new building this summer, a site having already been purchased at the corner of Isabel and Bannatyne streets. It will be constructed of frame and will cost about \$3,500. Negotiations are on foot for the purchase of the Potter house block, owned by Lieut.-Governor Schultz. The report is that the intending purchasers will erect an opera house on the property.

MONTREAL, QUE.—Messrs. McCunig & Mainwaring, 147 St. James street, are desirous of purchasing 100,000 hard and soft bricks, delivered at Montreal annex. Tenders are invited by the City Surveyor until Wednesday, the 19th inst., for the construction of drains in the different portions of the city. It is said that the Lake of the Woods Milling Company will build a large flouring mill in this city this season. The City Council have purchased the Gregory property, located between St. Patrick street, Atwater ave., Centre street and the Grand Trunk railway, in St. Gabriel's ward, as a site for the proposed incinerators. Mr. R. J. Tooke has purchased property on the corner of Peel street, opposite Erskine church, and will erect a large five-story structure thereon. Operations will not be commenced, however, until next year. Mr. W. M. Perrin, architect, has prepared plans for a new Sunday school building to be erected for the Douglas Methodist church on the corner of St. Catharines and Chomedy streets. It will cost about \$21,000, and will be lighted with gas and electric light. Mr. H. Robt. Falbord, architect, has prepared plans of a villa at Vaudreuil, P. Q., for Mr. F. D. Shallow, proprietor Moniteur du Commerce, to be erected this year.

HAMILTON, ONT.—At a recent meeting of the shareholders of the Central Fair Agricultural and Industrial Association, the directors were authorized to enter into negotiations with the Finance Committee to secure the purchase of property and the erection of buildings thereon at a cost of \$50,000. Mr. Haskins, engineer, has submitted to the chairman of the Sewers Committee a plan of the extension of the west end sewer required to relieve the residents of No. 3 Ward. To complete the work to Queen street will cost \$26,600, but the existing difficulty will probably be remedied by the construction of the portion from the corner of Locke and Bold streets to the corner of Hess and Robinson streets, at an estimated cost of \$12,800. Plans have been prepared for the erection of a shelter for cabmen, and tenders will be called for the work. The Gurney-Tilden Company has purchased property on the north-east corner of John and Rebecca streets and proposes to erect additional buildings for carrying on their business. Messrs. Burrow, Stewart & Milne have decided to make extensive alterations and additions. The wood and stone buildings to the west of the present premises will be pulled down and a new three-story building erected on the site thereof. The trustees of the Centenary church held a meeting on Monday evening last to consider the proposed improvements to the church. The galleries will be altered and the front part of the building remodelled.

TORONTO, ONT.—The estimates of the Ontario Government for 1893 include the following items for public buildings: Asylum for the insane, Toronto, \$7,245; asylum for the insane, Mimico, \$17,780; asylum for the insane, Brockville, \$100,000; asylum for the insane, London, \$20,835; asylum for the insane, Hamilton, \$26,600; asylum for the insane, Kingston, \$11,850; asylum for idiots, Orillia, \$3,700; reformatory for boys, Penetanguishene, \$6,105; reformatory for females, \$2,495; Central prison, Toronto, \$63,090; Deaf and Dumb Institute, Belleville, \$15,055; Blind Institute, Brantford, \$1,530; Agricultural College, Guelph, \$15,500; Education department, Normal and Model Schools, Toronto, \$1,000; Normal school, Ottawa, \$6,000; School of Practical Science, Toronto, \$13,720; Osgoode hall, Toronto, \$500; Government House, Toronto, \$5,000; New Parliament and Departmental buildings, \$87,801; Algoma district, \$1,900; Thunder Bay district, \$1,300; Muskoka district, \$700; Parry Sound district, \$1,000; Nipissing district, \$2,100; Rainy River district, \$3,900. A sub-committee of the City Council have recommended that the G. T. R. company be granted the right of way for the erection of a foot bridge over their tracks at the foot of Brock street. The recommendation has been referred to the City Engineer for a report thereon. Tenders will shortly be called for constructing drains in the Exhibition grounds, the work to cost \$5,000. The Bell Telephone company contemplate building an eastern exchange or Broadway avenue this summer. They will also erect an office building in Parkdale. The erection of a new school house is contemplated

at Dovercourt. Mr. J. Ades Fowler, architect, has prepared plans for 6 pair of houses to be erected on Guelph avenue for Messrs. Palmer & Harrington. The plans may be seen at 58 Jarvis street by those desirous of tendering on the work. The City Council has decided to exempt from taxation the buildings and plant of the Chicago Steel Wheel Wagon Company, who wish to locate in Canada. Plans are now being prepared by Messrs. Darling, Sproatt & Pearson for a new dormitory and a large gymnasium to be erected in connection with Trinity University. The work of building will be completed before the fall term commences. A by-law will be submitted to the ratepayers granting 200 acres of land on the north side of the proposed Ashbridge's bay channel and a bonus of \$75,000 to the Kelly Mining Company of New York who wish to establish smelting works in this city. The company agree to expend the sum of \$500,000 on buildings and plant. The representatives in the city are Messrs. J. G. Morehouse and W. V. Reynolds. Building permits have been granted as follows: John Sullivan, 22½ Bellwood ave., det. 2 story bk. dwelling, cost \$1,400; A. & S. Nordheimer, 6 story and basement, bk. and stone warehouse, n. side Colborne street, cost \$28,000; John Leckie, additions to warehouses, 9 and 11 Church street., cost \$8,000.

FIRES.

The large brick flour mill and storehouse, together with all the contents, belonging to McCahill & Co., at Forest, Ont., were consumed by fire recently. The loss is placed at \$24,000, the insurance being \$15,500. Morrison Bros. harness shop and Jenkins & Sons' clothing establishment, at Petrolia, Ont., were burned on Thursday of last week. The buildings were owned by J. Huggard, of Toronto. A frame block at the corner of Lochiel and Victoria streets, Sarnia, was destroyed by fire on the 9th inst. The losers are: Wm. Johnston, grocer; C. Eacrett, saddler; S. Dennis, butcher; W. A. Buchner, furniture, and W. Graham, butcher. Fire was discovered in the store of the Patrons of Industry, at Dutton, Ont., on the morning of the 8th inst., which destroyed \$50,000 worth of property, including the Windsor hotel, J. Price's general store, McPherson & Drake's general store, Dutton post-office, opera house, Mechanics' Institute, Davis' tailor shop and F. Miller's tailor shop. Mr. A. J. Leitch owned most of the buildings. The store and contents of J. D. Gohen, at Norham, Ont., were completely destroyed by fire last week. Loss \$1,300, covered by insurance. Ambrose Hayward's residence at Woodstock, Ont., has been destroyed by fire. The loss is partly covered by insurance. Messrs. A. R. McKinley & Co.'s large window shade factory on St. Alban's street, Toronto, was completely destroyed by fire on Monday last. The loss will be about \$30,000, on which there is an insurance of \$25,000.

CONTRACTS AWARDED.

GODERICH, ONT.—The Goderich Organ company have let the contract for an addition to their building, to be 32 x 48 feet and three storeys high.

NIAGARA FALLS, ONT.—Mr. Lovell has been awarded the contract for building two houses on Welland Avenue for Mr. S. Neil, and a house on Alice street for Mr. P. Glenn.

WINDSOR, ONT.—The Board of Education has accepted the tender of Mr. Alfred Dynes for a gymnasium, his tender being \$3,065. He also secured the contract for an addition to Mercer street school.

AMHERSTBURG, ONT.—Mr. Alexander Tourangeau has been awarded the contract for building the Canard River bridge, at the price of \$995. There were twelve tenders sent in, ranging from \$995 to \$2,300.

VANCOUVER, B. C.—Mr. James Leamy has been awarded the contract by the Dominion Government for the construction of the quarantine wharf at William's Head, the amount of tender being in the neighborhood of \$15,000.

LONDON, ONT.—Contracts have been awarded for the erection of the new St. James' Episcopal Sunday school in South London, and work will commence next week. The total cost will be about \$5,000.

TORONTO, ONT.—Messrs. A. Walsh & Co., of this city, have been awarded the contract for grading, etc., the first section of the Toronto and Scarboro Electric Railway, from the Woodbine corner to Blantyre ave., Kingston road, at \$1,145 per mile. The contractors are to complete the work by the 15th May. The City Council has awarded the contracts for the Ashbridges Bay improvements, the successful tenderers being as follows: Section 1, B. D. McNamee, price \$62,102; section 2, Shields & Sutton, price \$44,964.

MONTREAL, QUE.—H. Austin Jones, architect, has awarded the contract for a double tenement house, Dorchester street, for Mrs. P. J. Durack, to the following contractors: excavating, masonry and cut stone work, G. W. Turner & Co.; brickwork, John Sheehan; carpenter and joiner work, J. E. Mooney & Co.; plumbing and tin-smithing, F. Horton; plastering, G. Grenier; painting, A. Bennett; roofing, D. Nicholson. H. Robt. Falbord, architect, has awarded contracts as follows for two 4-story houses on Visitation street for Messrs. J. B. Maribiot & Fils: excavations, drains and stone work, A.

Rateau; brickwork, Alf. Gauthier; carpenter and joiner, C. Scotte; roofing and plumbing, Bomboniere & Lapierre; painting and glazing, Vallancourt & Grisebois. For seven 3-story houses, etc., on Grant and Montcalm streets near Notre Dame, for Mr. P. P. Martin, wholesale merchant, stone, G. Gulault; brickwork, Riopel & Landry; carpenter and joiner, Alf. Fournier; roofing and plumbing, J. E. Lewis & Frere; plastering, J. Lefebvre; painting and glazing, C. M. Lavoie. For two 3-story houses on St. Denis street for Mr. Idor Lauviere: excavations, drainage, masonry and cut stone, Latour Lauviere, brickwork, carpenter and joiner, roofing, plumbing, plastering, painting and glazing, L. M. Jette.

MUNICIPAL DEPARTMENT.

WHAT GOOD ROADS MEAN.

THEY would make it possible for the farmer to take advantage promptly of the highest market, no matter at what season of the year.

They would save him days and weeks of time which he wastes every year wallowing through the disgusting mire of dirt roads.

They would reduce to a minimum the wear and tear on wagons and carriages.

They would lessen the expense in keeping horses in working order, and fewer horses would be required in the country to perform the farmer's work.

They would require less to keep them in repair than do the dirt roads.

They would make it easier for a team to pull several tons over their smooth surface than to draw a wagon through the mud.

They would afford ready communication with the outside world at all seasons of the year.

They would save the farmer many vexations and nervous strains.

They would practically shorten the distance to the local market.

They would increase the demand for country and suburban property.—*Farm and Fireside.*

STRENGTH OF VITRIFIED SEWER PIPE.

That ordinary vitrified sewer pipe has an ultimate strength to withstand an internal pressure of 100 lbs. per sq. in. is a statement which will, perhaps, surprise many engineers. Prof. M. A. Howe, in a paper in another column, reports experiments showing this to be the case, but proving that the weak point of such pipe, so far as bursting pressure is concerned, is the joints. The ordinary joint fails at about one-fourth the pressure which the pipe itself will withstand; but by using improved joints the author believes that their strength may be made equal to that of the pipe.

These facts are especially important in view of the use of vitrified pipe for water supply conduits. In nearly every one of the few cases where vitrified pipe has been so used, great pains have been taken to keep the pipe on the hydraulic grade line so that it should not be subject to internal pressure. The detours which this makes necessary, however, may often do much to neutralize the saving over cast-iron or steel conduits. If vitrified pipe can be safely used under moderate pressure, its cheapness, cleanliness and freedom from corrosion and incrustation ought to bring it into extended use for water-works conduits.

Of course it is to be remembered in using such pipe under pressure that while its strength is considerable, its resilience is very small. Hence it should never be used where a water hammer can come upon it. A steady pressure it can bear with safety, but any gates on the conduit except at the head should be considered out of the question. Bearing this in mind and taking proper precautions whenever the water is drawn off from or let into the pipe, it ought to be possible to use conduits of vitrified pipe under considerable pressure.

The saving in cost over cast-iron pipe in the case of the vitrified pipe main, 5.63 miles long, supplying Little Falls, N. Y., was over one-half, according to the paper