

**SUDBURY, ONT.**—Proposals are invited by the Town Clerk until the 29th inst., for the purchase of \$30,000 of waterworks and \$10,000 of sewerage and electric light debentures.—Tenders for the extension of the sewerage system and for the construction of waterworks will be called for on completion of the drawings for same. Tenders for the construction of a main sewer are now being received by the Town Clerk, Arthur Ferris.

**WINNIPEG, MAN.**—The Ogilvie Milling Co. are said to contemplate the erection of six grain elevators at different points throughout the province, the work to be commenced in the spring. It is understood that the scheme for the erection of a Masonic temple has been abandoned, as the present is not considered an appropriate time for financing the undertaking.—The by-law to raise the sum of \$225,000 for a system of waterworks for fire protection and the purchase of an electric light plant was defeated by the ratepayers on Tuesday last by a large majority.

**COLLINGWOOD, ONT.**—A by-law will be submitted at the coming municipal election, asking for power to raise the sum of \$10,000 for the purpose of extending the electric light and waterworks systems, \$6,000 to be expended in the electric light extension, and \$4,000 in extending the waterworks. Fred L. Hodgson, architect, has prepared plans and specifications for extensive alterations to a large residence in Midland, Ont., for Mr. James Playfair. It will be heated throughout with hot water, and the plumbing will be of a superior quality; the work all to be done during the present winter. Estimated cost, \$5,000.

**HAMILTON, ONT.**—R. O. and A. B. Mackay will expend \$12,000 this winter in refitting the steamers Michigan, Acadia and St. Magnus.—The Jail and Court House Committee of the City Council has recommended that a by-law be introduced to provide for the erection of a new city jail.—The City Clerk invites tenders on behalf of the corporation until Tuesday, the 22nd of January next, for inch boards, planks, scantling, crossing timbers and cedar posts required during the year 1895. Specifications may be seen at the office of the City Engineer Buscombe Bros. have been granted a permit for the erection of a brick dwelling on Hannah street, between Queen and Locke streets, to cost \$1,200. The City Engineer has recommended as a solution of the east end difficulty, that a flume be constructed from the present outlet of the sewer to the mouth of the inlet, at an estimated cost of \$13,000.—Mr. E. A. C. Pew, the promoter of the Lake Erie Canal scheme states that the necessary capital for the undertaking has been subscribed, and that work on the canal will be commenced very shortly, and be completed by the 1st of November, 1896.

**MONTREAL, QUE.**—It is stated to be the intention of the Sisters of the Providence Convent to erect at an early date a gigantic asylum at Longue Pointe, on what is known as "Le Coteau". The new building will cost in the neighborhood of one million dollars, and will be built on the new Sherbrooke street, for which improvement the city of Montreal will be asked to grant the sum of \$100,000. It is understood that a number of architects have already been consulted about the scheme.—In noticing the improvements contemplated to St. Patrick's church in the last issue of the Record, the fact should have been mentioned that the architect was Mr. W. E. Doran, under whose supervision the work is to be carried out.—The City Surveyor has requested the C. P. R. Company to proceed with the excavations for the new east end station during the present winter. The cost of carrying out the work in winter is placed at \$34,800, and in summer at \$32,460. The company have promised to give a reply in a few days.—The Board of Health have not yet finally decided on a site for the proposed contagious diseases hospital.—The Royal Electric Co. is calling for tenders for the carpenter's work of new workshops on Queen street.

**TORONTO, ONT.**—Tenders for the supply of an electric light plant for Island Park are invited by Mr. John Hallam, Chairman Parks and Gardens Committee, until Thursday, the 3rd of January. Specifications may be seen at the office of the Park Commissioner, St. Lawrence Hall.—The recommendation of the Parks and Gardens Committee that a supper room be erected at the Horticultural Pavilion, at a cost of \$750, was passed by the City Council at its last meeting, and tenders will be invited for its erection.—An informal meeting of citizens interested in the erection of a first-class hotel in Toronto was held a few days ago, Messrs. Robert Jaffray, J. W. Langmuir, Fred. Rogers and others being present. It was reported that the prospects of success were encouraging. The proposed site of the hotel is the old Upper Canada grounds at King and Simcoe streets, and it is understood the Ontario Government has consented to donate the site free. The capital stock of the company will be placed at \$1,000,000. Of this sum \$250,000 will be subscribed by citizens, the balance to be raised by the issue of debentures.—The Technical School Board passed a resolution at the last meeting requesting the City Council to provide a permanent building for the school. It was pointed out that if the city would erect a building the government would be willing to make the customary school grant.

#### FIRES.

The Ross Packing Co.'s saltery at Steveston, B. C., was totally destroyed by fire last week. Loss, \$6,000; insurance, \$1,000.—Will & Jones' cold storage warehouse and buildings at Jarvis, Ont., were destroyed by fire on Saturday last. The loss is estimated at \$12,000, partially covered by insurance.—The carpet factory of D. McCallum, at Strathroy, Ont., was burned last week.—The foundry and machine shops of Gagnon Bros. on Valier street, Quebec, were destroyed by fire on the 12th inst. Loss, \$10,000; insurance, \$5,000.—The residence of Mrs. Giguere, on Champlain street, Quebec, has been burned.

#### CONTRACTS AWARDED.

**WINDSOR, ONT.**—The contract for erecting a pest house has been awarded by the City Council to G. J. Baldwin, at \$1,097.

**SARNIA, ONT.**—The Sarnia Township Council has awarded the contract of draining the Wawanosh marsh to A. McKay, of Chatham. The estimated cost of the work is about \$20,000.

**MONTREAL, QUE.**—Mr. W. E. Doran, architect, has awarded contracts as follows for the alterations and additions to St. Patrick's church: re-roofing, Montreal Roofing Co.; iron of new gallery, Dominion Bridge Co.; re-construction of organ, Casavant Bros., St. Hyacinthe, Que.—Mr. P. B. Williams, architect, has awarded contracts as follows: two houses on Delorimier ave., for Mr. C. B. Gordon to Bark & Valin, at the price of \$5,800; a house for Mr. J. B. Provost to same contractors at the price of \$2,500.

#### BUSINESS NOTES.

James Knechtel, architect, of Berlin, Ont., is dead.

A. J. Cromar, builder, Brantford, has assigned to T. Woodyatt.

P. L. Duvert & Co., painters, Montreal, have dissolved partnership.

The Montreal Quarry Co., capital \$200,000, is applying for incorporation.

David Kerr, painter, Quebec, is offering to compromise with his creditors at 30 cents on the dollar.

Joseph A. C. St. Amour, contractor, Montreal, has assigned to A. C. St. Amour, with liabilities about \$6,500.

The Western Wire and Nail Company, of London, Ont., are applying for incorporation, with a capital of \$50,000, to manufacture wire nails.

#### BOND CLAY.

The problem of making a refractory brick from native clay is based upon the fact that "the purer the clay the more infusible." Our purest clays are flint-clays, which are probably refractory by reason of their structures as well as their composition. These then make an admirable basis for the brick. As they are non-plastic, their successful use compels the addition of a small amount of plastic clay, and on the choice of this clay all depends. A fine-grained, sandy clay hard in its native state, and plastic when ground up in water, makes the best bond; it is needless to add it should be pure. The more aluminous a clay is, the more will it shrink on burning, and if the clay which has been used to incorporate the non-plastic part should shrink materially on burning, it would loosen the bond between the pieces of hard clay and make the whole fabric unsound. Therefore the clay fit for a bond is one in which the natural shrinkage is at a minimum; this condition is found in a fine-grained sandy clay. It is ignorance of this point, which seems so simple, that has caused the failure of so many patent mixtures of refractory materials. It has seemed to each man in succession who has approached the subject, that as pure kaolin is infusible, and pure sand is infusible, and as these bodies represent respectively our ideal of plasticity and non-shrinking qualities, a proper mixture of the two would produce the most desirable results. But when such a mixture is heated, the enormous shrinkage of the kaolin loosens the bond of the whole body and makes it weak and fragile.

#### MASONRY CONSTRUCTION.

The following from an English journal is interesting: The dressing of stone is a most important operation, and generally the larger the blocks the greater the care required in leveling the beds or dressing them in the proper angle or in the squaring. If the beds are irregular, or in winding the bearing is unequal, the stone tends to split and rend at bearing points, which act as fulcrums, and in fact may have to be loaded with an enormous weight. This cannot occur if the beds have been well leveled, as the bearing is then equal throughout the bed. The rent receives rain-water and allows it to lodge, and the structure becomes exposed, often in a dangerous manner, to the effects of frost. If the blocks of stone are fairly and fully dressed, the trouble of laying them will be comparatively slight. Care must be taken that in order to hide or disguise a thick clumsy joint the blocks be not pitched forward on their edges, as they will then be sure to splinter at the edges, from the weight bearing on the angle. To disguise the careless dressing of blocks, and to work them when laid, workmen are apt to underpin large blocks of stone with wedges of wood or splinters of stone, thereby laying the foundation of rents and fissures when the work settles. The setting bed of each course should be brought true and level to receive the next course, which must rest solidly and truly upon it. The face of every stone in a wall may be left quarry-faced, or as it comes from the quarry, but each stone should be wrought with a setting margin. The dressing of the beds of large blocks of stone may easily be tested by laying the edge of a straight rod or rule (otherwise a straight edge) along the surface of a block, from angle to angle and from side to side, when any windings or irregularities in the setting beds will easily be seen by parts of the edge of the rule lying close to the stone, while cavities admit the light between the bed and the rule. In building with ashlar or other large stone care must be taken that pebble and small stones be not used in the mortar, as these will act as so many wedges on the beds; but in grouting, or filling in at the back of masonry, there is no objection to splinters being used, and in filling in angles and odd corners in rubble backing they may come in advantageously, not only to save waste of mortar, but because when the

mortar sets the work will be better filled. Unfortunately, this is where masons will often not take the trouble to use splinters of stone.

The natives of interior Ceylon finish walls and roofs with a paste of slaked lime, gluten, and alum, which glazes and is so durable that specimens three centuries old are now to be seen. In Sumatra the native women braid a coarse cloth of plain leaves for the edge and top of the roof. Many of the old Buddhist temples in India and Ceylon had roofs made out of cut stone blocks, hewed timber, and split bamboo poles. Uneven planks cut from old and dead palm trees, seldom from living young trees—are much used in the Celebes and Philippine Shaiks' skins form the roofs for fishermen in the Andaman Islands. The Malays of Malacca, Sumatra, and Java have a roofing of attaps—pieces of palm leaf wickerwork about 3ft. by 2in. in size and 1in. thick, which are laid like shingles, and are practically waterproof. The Arabs of the East Indies make a durable roof paint of slaked lime, blood, and cement. Europeans sometimes use old sails—made proof against water, mould, and insects by paraffin and corrosive sublimate—for temporary roofs.

### MUNICIPAL DEPARTMENT.

#### LEGAL DECISIONS AFFECTING MUNICIPALITIES.

**CUMMINGS AND COUNTY OF CARLETON.**—Judgment on appeal by City of Ottawa and County of Carleton from order of Boyd, C., in chambers (14 C. L. T. Occ. N. 451) dismissing motion by appellants for prohibition to arbitrators to prohibit proceedings to ascertain the compensation to be paid to Cummings for lands in the county injuriously affected by the building of a bridge over the River Rideau forming the boundary between the city and county. The main question raised by the appeal was whether arbitration was the landowner's remedy, the claim being against two municipalities, there being no by-law for the doing of the work, and the lands affected not being in the city. Held, that the duty of keeping up and maintaining the approach to the bridge being cast by the law upon the county, the claim for compensation should be against the county, which alone could be compelled to arbitrate in respect of it, and the proceedings against the two municipalities were erroneous, and the appointment of an arbitrator on behalf of both without jurisdiction. Appeal allowed and order made prohibiting proceedings in the attempted arbitration, but not so as to prevent Cummings from commencing and prosecuting proceedings de novo against the county alone to compel arbitration, and the county to be at liberty to set up in such proceedings that compensation has already been made to Cummings. No costs.

#### SEWAGE PURIFICATION EXPERIMENTS

**AT BOULOGNE-SUR-MER.**—The chemical report of M. L. Vuaffart and the microbiological report of Dr. Billel relating to the experiments made at the Exhibition at Boulogne with Mr. Andrew Howatson's installation for the treatment of sewage by polarite are now published. The reports are highly interesting, showing the experiments have been carried out with the greatest care, the results being most satisfactory. M. Vuaffart arrives at the conclusions that the effluent was at all times limpid and colourless, and that in addition to the organic matter in suspension, from 84 to 88 per cent. of that in solution was removed. Dr. Billel's microbiological report concludes thus—(1) Crude sewage 5,250,000 microbes per cent. cube. (2) Crude sewage after precipitation by ferrous zone, 812,500 microbes per cent. cube. (3) Crude sewage after filtration through polarite 42,000 microbes per cent. cube. That is to say, a little more than 99 per cent. of the microbes were removed.