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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF THE PUBLIC WORKS OF CANADA

PUBLIC WORKS • TENDERS • ADVANCE INFORMATION • AND MUNICIPAL PROGRESS

EVERY THURSDAY

This paper reaches every week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers, Purchasers of Municipal Debentures and leading Contractors in all lines throughout Canada.

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TO CONTRACTORS

Sealed Tenders, in bulk, addressed to the undersigned and endorsed "Tender for Works," will be received at this Department until NOON OF WEDNESDAY, JULY 1st, for the various works required (excepting steam heating and plumbing) in the erection of an additional storey to the Education Department Building, Toronto.

Plans and specifications may be seen and all information obtained at this Department.
The Department does not bind itself to accept the lowest or any tender.

An accepted bank cheque payable to the undersigned for 5 per cent of the amount of tender for the above work will be required, and the bona-fide signatures in full and business addresses of two parties as sureties must also be furnished.

WM. HARTY,
Commissioner.

Department of Public Works of Ontario,
June 18th, 1896.

ASPHALT PAVEMENTS IN WINNIPEG

Sealed Tenders, addressed to the undersigned, for ASPHALT PAVEMENTS, BOULEVARDING and STONE CURBING on portions of Assiniboine Ave. and Donald, Hargrave and Kennedy streets, in all about 22,000 square yards, will be received at the office of the Clerk of Committees up to

8.30 p.m. on Wednesday, July 15.

Plans and specifications can be obtained at the office of the City Engineer on and after the 18th inst.

Each tender to be accompanied by a marked cheque, payable to the order of the City Treasurer, for the sum called for in the form of tender supplied, which will be subject to usual terms of forfeiture for non-completion of contract.

I. M. RO S,
Chairman Committee on Works.

Winnipeg, June 16th, 1896.

CONTRACTS OPEN.

TAVISTOCK, ONT.—V. Stock will erect a new brick building.

TILSONBURG, ONT.—The by-law to raise \$8,000 for new public buildings has been carried.

ST. GEORGE, N. B.—Mrs. E. R. Russell will receive tenders until the 1st of July for the erection of a residence.

BOWMANVILLE, ONT.—A by-law has been passed granting a bonus to the proposed Rubber Manufacturing Co.

WEYMOUTH, N. S.—The ratepayers have decided to erect a large school building as soon as a site is secured.

WINNIPEG, MAN.—The Board of Works have decided to construct a 6-foot flume on Maryland street, at a cost of \$7,000.

LISTOWEL, ONT.—The Council have passed a by-law to raise \$15,000 for the purpose of putting in electric light and waterworks.

GANANOQUE, ONT.—Power & Son, architects, of Kingston, have been engaged to prepare plans for an addition to the Methodist church here.

CHATHAM, ONT.—Charles Gerow is asking for tenders for the erection of a brick veneer school house, from plans by James Wilson & Son.

BELMONT, ONT.—John Campbell will receive tenders until Wednesday, 1st July, for the erection of a two-storey brick manse for Knox church.

KASLO, B. C.—Mr. Bostock has arranged for the floating of \$30,000 of debentures, and arrangements will be made to secure electric light and waterworks.

NORTH SYDNEY, N. S.—Tenders for laying about six miles of cast iron water pipe are invited until the 1st of July. Address J. W. Armstrong, Town Clerk.

BRACEBRIDGE, ONT.—I. Huber will build immediately, latest sanitary improvements. The service pipes are to be carried throughout from street line to the main.

DARTMOUTH, N. S.—Tenders will be received at the office of the secretary of the Dartmouth Ferry Commission, until the 15th of August, for the construction of

a ferry steamer. Address W. Jago, secretary.

BROCKVILLE, ONT.—The School Board have accepted the plans of Arthur Ellis, architect, of Kingston, for a new school to cost \$6,000, exclusive of plumbing and heating.

NEW WESTMINSTER, B. C.—The proposed bridge over the Coquitlam is to be built at once. A committee has been appointed by the Coquitlam Council to look after the details.

FREDERICTON, N. B.—The Board of Works have completed plans for a new bridge to be built at St. Joseph, at a cost of \$20,000. The work of construction will commence in a short time.

ORILLIA, ONT.—The Tudhope Carriage Company is getting out plans for a \$15,000 enlargement to their premises. It will be a three-storey metal covered building, 50 feet wide by 140 feet deep.

HALIFAX, N. S.—Tenders for the erection of a brick and stone building, corner Prince and Barrington streets, for George Wright, will be received by J. C. Dumaresq, architect, until noon Friday, 26th inst.

ST. JOHN, N. B.—Tenders for erecting the new High School building are being invited until Friday, the 26th inst. Plans may be seen at the office of G. E. Fairweather, architect.—Fowler & Calhoun propose erecting a corn and grist mill.

NIAGARA FALLS, ONT.—The plumbing and heating contract for J. A. Doran's residence has not yet been let. Ellis & Clark, architects. The same architects are preparing plans for a pair of semi-detached residences for Hamilton Robertson, to cost \$5,000, and a residence for Mr. Shepherd, to cost \$1,200.—Wm. Nichols, architect, has prepared plans for two residences for Wm. McMurray, hardware merchant, to cost \$2,500 each.

QUEBEC, QUE.—Mr. H. Staveley, architect, is preparing plans for the reconstruction of the steeple of the Anglican church at Cookshire. New masonry will be built.—The Richelieu & Ontario Navigation Co. are making great extensions to the Tadoussac hotel.—Building permits have been granted as follows for modifications of a house on Redpath street for D. Morrice: Masonry, J. W. Wilson; carpenter and joiner's work, Fordé & Casey.

BELLEVILLE, ONT.—Tenders for building a hop house at Corbyville, Ont., are invited by H. Corby until the 26th inst.—Tenders for alterations and repairs to the Central and High School building are invited by Wm. Tennent until Saturday next, the 27th inst. Plans at offices of Thos. Hanley and W. Jeffers Diamond, secretary-treasurer.—Geo. Denmark, City Clerk, will receive tenders until noon of the 29th inst. for the construction of a sewer on Charles street. Plans at City Clerk's office.

LONDON, ONT.—The tenders for an addition to Lorne avenue school were

found to be too high, and new tenders are to be called for, to be in by the evening of the 25th inst. Tenders will be invited at once for additions to Rectory street and Wortley road schools. An architect will report on the tenders for heating school buildings.—The Water Commissioners propose to build a conduit from the lower Colville Springs to the pump-house at Springbank. The conduit would be a mile long and cost several thousand dollars.

TORONTO, ONT.—The question of a new fire hall to replace the present Bay street building is being considered by the Fire and Light Committee.—Tenders for carpenter work, painting, kalsomining, etc., required at the Separate Schools are invited by James Ryan, until the 27th inst. Specifications at 28 Duke street.—Ald. Gowanlock has moved in Council that the City Engineer be instructed to extend the Spencer avenue sewer into the lake. The matter has been referred to the Board of Works.

OTTAWA, ONT.—The Protestant Hospital building committee has decided to give further consideration to the new wing project before employing an architect to prepare the plans.—J. H. Balderson, Secretary Department of Railways and Canals, will receive tenders until Monday, the 17th of August, for the construction of about fourteen miles of canal on the Simcoe and Balsam Lake Division. Plans can be seen at the office of the Chief Engineer of the above department, and at the Superintending Engineer's office, Peterboro'.

MONTREAL, QUE.—The sum of \$350,000 will be devoted to the erection of a new mining and metallurgical building for McGill college, from the donations of Mr. W. C. Macdonald.—The Finance Committee have given instructions to the City Surveyor to see that repairs were made to all permanent works, and a sub-committee, composed of Ald. Reneault, Brunet and Kinsella, were named to visit the streets complained of and report at the next meeting.—A building permit has been granted for one house on Petit street for M. Denoon. Masonry, J. B. St. Louis. Estimated cost \$12,000.

HAMILTON, ONT.—The by-law to provide \$85,000 for the establishment of sewage interception works was carried last week. It is not the intention to proceed with the construction of sewage interception works at the outlets of both the east end and Ferguson avenue sewers this year. The buildings, engines and most of the works will be built by contract but part of the system can best be constructed by day labor.—George H. Milne has taken out a permit for two two-storey bk. dwellings, corner Catharine and Jackson streets, to cost \$1,800.—A new \$30,000 steel plant is to be put into the Hamilton rolling mills.

FIRES.

The concert hall at Brampton, Ont., has been burned. Loss covered by insurance of \$1,000.—Alder Pugsby's block at Cobourg, Ont., was gutted by fire on the 17th inst. Insurance on building, \$2,500.—The residence of Geo. A. Wallace at Ponsonby, Ont., has been destroyed by fire.—The residence of J. Sabourin, at Ottawa East, has been burned.—The works of the Thompson Electric Co., at Waterford, Ont., were entirely consumed by fire on the 19th inst. The building was a large stone structure. Loss, \$30,000; insurance, \$16,000.—Chas. Warwick's saw mill at Shedden, Ont., has been destroyed by fire. Loss, \$4,500; insurance, \$2,500.—The boiler shop at St. Thomas, Ont., belonging to George Taylor, was burned on Tuesday last. Loss, \$1,200; insurance, \$650.

CONTRACTS AWARDED.

ELGIN, ONT.—Walter Phelps is supplying 100,000 bricks for the Presbyterian church at Westport.

CHATHAM, ONT.—The contract for heating the jail and court house will probably be awarded to Jas. Watt & Sons.

THAMESVILLE, ONT.—J. Graham and J. Quelch have secured the contract for erecting J. Duncan's residence on Ann street.

HALIFAX, N. S.—The contract for the building of the keeper's lodge at Point Pleasant park has been awarded to S. M. Brookfield, at \$3,000.

WINNIPEG, MAN.—The tender of Hanson Bros., of Montreal, for the purchase of \$46,500 of debentures, has been accepted. Price, \$102.56.

WELLBURN, ONT.—B. J. Roadhouse, contractor, of St. Marys, has been awarded the contract for building the new Methodist church here. Contract price \$4,000.

ST. JOHN, N. B.—Nine tenders were received for the purchase of \$57,000 of four per cent. debentures. That of the Imperial Trust Co., at 104¼, was accepted.

TILBURY CENTRE, ONT.—The contract of building an iron bridge, 85 feet long, over Big Creek, has been let to the Central Bridge & Engineering Co., of Peterboro, at \$810.

WOODSTOCK, ONT.—The tenders of J. B. McKay for the construction of the northern sewer, at \$3,500, and of Chas. E. Rapson for sewer pipe, junctions, etc., at \$2,296.08, have been accepted.

OTTAWA, ONT.—The Department of Public Works have awarded the contract for the construction of two steel scows to be used in connection with the steel dredge to Carriere, Laine & Co., of Quebec.

LISTOWEL, ONT.—The contract for erecting the new English church has been let to Bamford Brothers, of this place, the price being \$7,074, exclusive of seating and furnishing. The building is to be of grey stone.

INGERSOLL, ONT.—Craig & Barnum have just closed a contract with Bishop O'Connor, of London, on behalf of the congregation of the Church of the Sacred Heart, for the erection of a new brick residence for Father Connolly, to cost \$3,500.

BROCKVILLE, ONT.—Brown & Semple, of this town, have been awarded the contract for plumbing and heating the new addition to the Dunham block, an addition to Dr. Stephenson's residence at Iroquois and a new cottage for A. W. Fleck, near Poole's resort.

PETROLEA, ONT.—The contract for the construction of a waterworks system has been let to Garson & Co., of St. Catharines, their tender being \$131,945. J. Perkins Co., of Toronto, have been awarded the sub-contract for erecting towers and furnishing hydrants and valves.

GUELPH, ONT.—The successful contractors for a two-storey addition to Loretto academy are: Stone work, Frank McQuillan; carpentering, John Hughes; tinsmithing, Geo. Howard; plastering, J. J. Mahoney; plumbing, Feek & Phillips; painting, W. Scrivens. George R. Bruce, architect.

LONDON, ONT.—\$40,000 worth of debentures have just been sold to the Bank of British America, at \$104.48.—The Board of Education have accepted tenders as follows for a four-room addition to St. George's school: Carpenter work, Isaac Sergeant, \$1,555; brick work, John Hayman & Son, \$2,500; painting and glazing, Geo. Howe, \$198; plastering, A. Dowell, \$265; roof slating, J. Whitaker, \$230; galvanized iron work and metallic ceilings, W. Stevely & Son, \$230; total, \$4,978.

TORONTO, ONT.—The Board of Control have awarded tenders for paving as follows: Dundas street, from Bloor street to Humberside avenue, brick and scoria, W. F. Grant & Co., \$9,246.50; Simcoe street, from Front to Station street, cedar and concrete, Burns & McCormack, \$1,593; Yorkville avenue, cedar block, D. L. Van Vlack, \$3,489; Henry st., brick, D. L. Van Vlack, \$5,390; Prince Arthur avenue, west from Avenue road, brick, D. L. Van Vlack, \$3,487. Two tenders were received for a stone crusher, each being at \$700 without trucks, and \$725 with trucks. The engineer will be asked to report on the relative merits of the two machines.

PETERBORO, ONT.—Tenders for a brick sewer on George street, from King to Brock, and pipe sewers on George, from Brock to McDonnell, on Charlotte, Hunter and Simcoe, from the creek to George, and on Brock street, from the westerly limit of lot No. 3 to George, were received as follows: Section 1.—Jas. Bogue, \$8,379; Wm. F. Grant & Co., \$9,795; A. J. Brown, \$9,776; W. L. Innes, \$9,970; John Hartnett, \$12,036.60; Moore & McDonald, \$13,644. Section 2.—Jas. Bogue, \$3,151; Wm. F. Grant & Co., \$3,520; A. J. Brown, \$3,597; W. L. Innes, \$3,887; John Hartnett, \$3,841; Moore & McDonald, \$3,500; Hendershott & Hilton, \$5,925. The contract for the whole work has been awarded to James Bogue.

MONTREAL, QUE.—J. H. Macduff, architect, has awarded contracts as follows for one house on Notre Dame street, Ste. Cunegonde, for Maurice Gabais: Masonry, Bray & Guilbault; carpenter and joiner's work, Nap. Lavoie; roofing, J. Lalonde; plumbing and heating not let; brick, S. Rochon; plastering, Pierre Dansereau; painting and glazing, Mr. Rodrigue.—M. V. Lacombe, architect, has awarded the following contracts for two houses, corner Wolfe and Dorchester streets, for Mde. Marie Arriot: Masonry, C. Lemay; carpenter and joiner's work, Labrecque & Mercure; roofing, Girard & Cie; brick work, S. Rochon; plumbing, Girard & Cie; plastering, Jeremie Lefebvre; painting and glazing, Desjardins & Dubois; iron work, Canadian Bridge Co.

BUSINESS NOTES.

Mettayer & Leblanc, builders, Lachine, Que., have dissolved partnership.

J. G. Dodd, builder, London, Ont., is reported to be in financial difficulties.

J. J. Harvie, who succeeded his father's saw mill business at Orillia, Ont., has assigned.

The plant of the St. Thomas Pipe Foundry has been sold to Mr. Gartshore, of Hamilton.

Risdun & Livesey, hardware merchants, St. Thomas, Ont., have assigned. Liabilities about \$10,000.

Luke Humber and Fred. G. White, of Vancouver, B. C., have formed a partnership at Rossland as brick manufacturers and contractors and builders.

In the case of George Goodwin vs. the Queen, which was a claim for \$73,260 in connection with the contract of Mr. Goodwin at the Soulanges canal, the award was in favor of contractor Goodwin for \$58,260 and costs, with leave to Mr. Goodwin to appeal to have the amount increased to \$73,260.

The correct principle to observe in hot air heating is to supply a large volume of warm air, at a comfortable temperature flowing through the registers. Don't use a small furnace heated red hot, with small cold air supply, and a high temperature at the registers; the latter plan is one that causes trouble, and brings condemnation to furnace heating.

SOME USEFUL FACTS ABOUT CONTRACTS.

First, with regard to orders for extras, it is nearly always provided in contracts that the employer will not be liable to pay for work alleged to be an extra on the contract, unless the work shall have been ordered in writing by the employer or the engineer or architect responsible for the work. When this is clearly expressed, the written order is a condition precedent to payment. In the case of the Thames Ironworks Company v. The Royal Mail Steam-Packet Company, it was held "The Courts clearly recognize the doctrine that where the contract provides that alterations shall not be charged for unless they have been authorized in a particular manner, that provision must be strictly followed or else legally waived in order to enable an action to be maintained for such alterations"; and in cases where such extra works have been executed without written orders, the Court will endeavor to ascertain whether there has been any waiver of the condition. What would amount to such a waiver does not appear to be very clear, though it is assumed that if a large amount of extra work was executed and paid for from time to time without written orders the condition would in such a case be held to have been waived. There is, however, some doubt whether an engineer or architect acting for a public body should waive such a condition when the contract was under seal. If it can be proved that the extra works claimed for are entirely outside the contract, the want of a written order will not in most cases upset the contractor's claim.

With regard to the time of completion, the contract may or may not expressly state the time within which the works are to be completed. If no time is stated, then the law will imply a condition that the works should be completed within a reasonable time, and it will have to be proved what is a considerable time. When the date of completion is expressly specified, then, of course, that date must be observed, and a failure to complete within such date will be a breach of contract, and would at one time have entitled the employer to repudiate the contract and refuse payment; but this rule has now been relaxed, and the law of equity has now been adopted. That law is, that in the absence of an express stipulation that the date is to be strictly adhered to, or of circumstances from which such a condition may be inferred, time is not of the essence of the contract, and a failure to observe it, though a ground for compensation to the employer, is not a sufficient breach to enable him to repudiate the contract; it is therefore very important to consider the question as to when time will be regarded as the essence of a contract. The first and most important instance is when the contract expressly stipulates it, as was observed in the case of Kipwell v. Knight (1 Y. and C., 416): "If the parties choose even arbitrarily, provided both of them intend to do so, to stipulate for a particular thing to be done at a particular time, such a

stipulation is effectual in equity as well as law." Time may also be made of the essence of the contract when the nature of the work or the circumstances surrounding it show that the time for its completion is of great importance, and time may also be made of the essence of the contract where a definite notice is given to the contractor after he has failed to complete according to the original contract. If no time for completion has been fixed in the original contract and it is not completed within a reasonable time, or if a time has been fixed and exceeded, a notice may be served by the employer on the contractor to the effect that if the work is not completed within a certain time the contract will be rescinded; but this can only be done after default on the part of the contractor. Time conditions may be revived, and it is usual to insert a provision in the specification enabling the engineer or architect to extend the time for completion at his discretion, either on account of extra work which has been ordered, bad weather, or other just cause by which the contractor has been delayed, but it is important to add that such extension shall be in full satisfaction of all claim in respect of such delays. If, however, through the acts or defaults of the employer, the contractor is delayed in the execution of the work, he is entitled to claim any damages caused by such acts. This was clearly shown in the case of Lawson v. the Wallasey Local Board (L. R. 11, B. D., 229), where the contractor sued the Board for delay caused by their omission to clear away some staging. The contract provided that the defendant's engineer should grant an extension of time for completion in consideration of any delay in removing the staging. The delay was a serious one, and though the engineer allowed an amount to the contractor for this in his final certificate the contractor was not satisfied with the amount, and successfully brought an action to recover his actual loss.

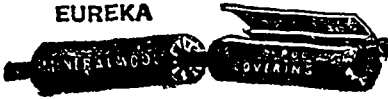
Now, with regard to the penalties which are incurred by failure to complete a contract within the specified time, it is usual in all specifications to provide what is known as a "penalty clause," which in effect stipulates that in the event of a contractor failing to complete the works in the stipulated time he is to forfeit and pay to the employer a specified sum per day or

week for each day or week, as the case may be, which shall elapse between the stipulated and actual time of completion. This sum is occasionally called the "penalty," though it should be always called "liquidated damages," as, if it is so stated, it is practically the amount the parties have agreed to be the proper amount of damages in the event of a breach of the contract, and in this case the employer is more likely to recover the amount; whereas, if it is not so stated, then, in the event of a breach, the employer will only be entitled to recover such sum as may represent his actual loss—a very difficult thing in some cases to prove. Penalty clauses are not often enforced, except in cases where the contractor has been very negligent or dilatory in completing the work.

We will now pass on to consider the question of certificates. Nearly all specifications provide that payments to contractors are only to be made on the certificate of the engineer or architect, or, in legal language, "the certificate is made a condition precedent to the payment of the contractor." A certificate may consequently be defined as an authority to the contractor to require and receive payment from the employer. Interim certificates are issued from time to time during the progress of the works, and are provisional, and it is usually stated that the inclusion of any defective or disputed work or materials is not to be taken as relieving the contractor from his responsibility. Final certificates are more important where they are "conditions precedent to payment," as where this is the case the contractor cannot recover unless he has first obtained the certificate, and even though the engineer or architect withholds the certificate, the contractor cannot get rid of his obligation to produce the certificate as his authority to demand payment. Provided there is no fraud on the part of the engineer or architect (see preceding articles) in withholding the certificate, and no undue influence on the part of the employer, the want of a certificate is a complete bar to the contractor's right to recover.

Lastly, the important question of the power to determine a contract must be dealt with. It is usual in a contract to provide a clause under which an employer

(Concluded on Page 4.)

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may put an end to the contract in the event of the contractor making certain defaults. For instance, a clause to the effect that if the contractor proceeds with the work at such a rate that it is evident he cannot finish within the specified time, the employer may enter and seize the plant and materials and take possession of the works and determine the contract. Of course, provision must be made for the giving of the necessary notices to this effect, and the tenor and time of service of the notice are of importance. The employer, as a rule, must have a strong case to obtain the aid of the courts, but where the contractor actually stops or abandons the work, and refuses to proceed further, the employer may intervene. If, however, the employer has in any way hindered the contractor, the court will not grant forfeiture, and the notice must be given and acted upon before the expiration of the period fixed by the contract for the completion of the works. It is an undoubtedly drastic measure for an employer to determine a contract and enter upon it himself, and such an action can only be justified under special circumstances. There are many other minor points connected with contracts upon which we have not touched, but we think the few remarks we have made upon "Some Useful Facts about Contracts" may have been of some service to our readers.

STONE AND CONCRETE BRIDGES WITH VIRTUAL JOINTS.

During the last decade bridges have been built in Württemberg of stone and of concrete, to the designs of Mr. Von Liebbrand, which are provided with so-called virtual joints in the apex and at the bearings in order to enable the bridge to accommodate itself to a slight settling of the foundations and of the mass of the bridge itself without having to fear the formation of cracks. The joints at the bearings would probably have sufficed, but the calculations are much facilitated by adding a third joint at the apex and the calculations are altogether simplified by adopting this novel idea of the president of the Württemberg public roads department. If the span of the bridge does not exceed 100 feet the joints may be made of lead plates. For one bridge only, that over the Danube at Munderkingen, which has a visible span of 164 ft. (the chord of the arc is considerably longer) and a rise of 16 ft. 5 in., iron and steel joints have been resorted to. The construction was first adopted for several of the Black Forest bridges, all built in Bunt sandstone, two over the Enz, and the bridges at Neuneck, Forbach, and Bueersbronn. The material of the bridge at Murbach is Kenper sandstone, the Ehingen bridge and the Munderkingen bridge already alluded to are built of

concrete, and are noteworthy for this reason too. Before lead was used for this purpose experiments were conducted at the Technical College at Stuttgart as to the pressure which lead would bear. It was found that 60 kilogrammes per square centimetre (86 lbs. per square inch) could safely be allowed. The experience gained on the bridges teaches, however, that double this pressure may be permitted, so that we have to conclude either that the large plates employed can withstand higher pressure, or more probably, that the pressures are uniformly distributed. The Forbach bridge, 92 feet visible span, 10 feet rise, has cost 14,610 marks altogether, about £730; the concrete bridge at Ehingen, which crosses a railway track, 60 feet visible span, about 12 feet rise, has cost 13,280 marks; the bridges are hence economical. Whether more economical than ordinary stone bridges is a disputed question. This latter bridge has a useful width of over 21 feet. During building, the arch, which is stiffened, with radially fixed white Jura, rested on cast-iron sand pots, which have been found preferable to oak wedges, here as elsewhere, and oak sleepers. A fortnight after completing the arch, which took about 12 days, part of the centering and lagging was removed, a week later all the supports were dis-

pensed with; the bridge settled by 14 millimetres, a little more than half an inch. The "Zeitschrift des Architekten und Ingenieur Vereins für Hanover," from which we take our information, goes very fully into the question of strength and elasticity of the various materials. Concretes or betons made up with broken bricks prove to be stronger than such mixed with gravel. The experiment has been so encouraging that a new concrete bridge, of 203 feet span and 20 feet rise, is now projected for the Neckar, at Hochberg. The arch will rest on two steel rails, 1 in. thick and 3 in. wide, fixed to a box of mild iron, built up of three T irons, to which plates are to be rivetted. This bridge is to cost £2,400. The drainage will be effected by means of U irons, resting on feet.

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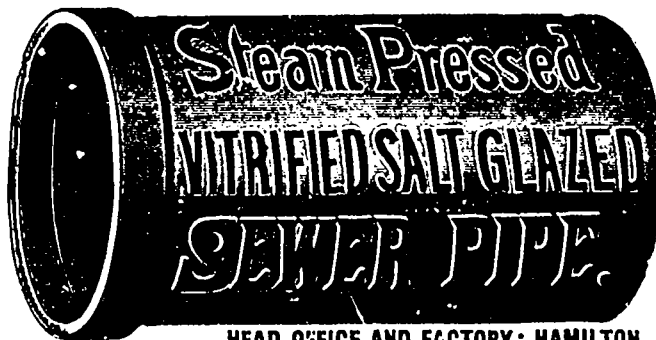
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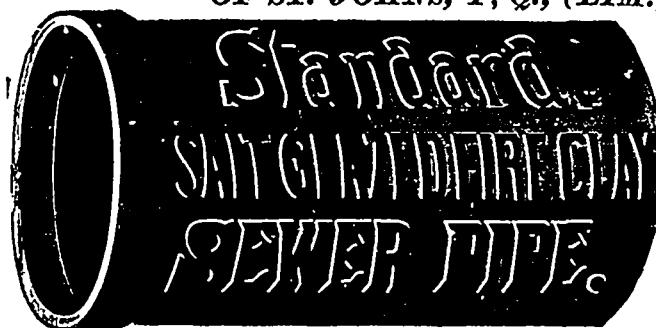
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MUNICIPAL DEPARTMENT

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

PREFONTAINE VS. CORPORATION OF THE PARISH OF BELCIEL.—The plaintiff, who is a property owner in the parish of Belciel, and is interested in a proces verbal of the 3rd September, 1894, made by A. Bernard, special superintendent, named by the Municipal Council of the parish, for the opening of a road leading from the front road of the fourth concession to the front road of the fifth concession, in the parish. He asked that the proces verbal, and the amendments made thereto by the municipal council of the parish, in homologating the proces verbal, on the 2nd July last, be annulled, among other reasons, because the proces verbal, as amended and homologated, did not indicate the assessable property of the proprietors or occupants who were obliged to perform the work, or to contribute to the completion thereof, as required by Article 799 of the Municipal Code. The Court held that the petition was well founded in fact and in law, and the action was maintained, and the proces verbal and amendments were declared null, and the defendant condemned to pay the costs.

CANADIAN PACIFIC RAILWAY COMPANY AND CITY OF TORONTO.—A city municipality, a railway company and others, entered into an agreement for the execution of certain works, by the former, authorized by order in council under the Railway Act, the cost being apportioned between them, of which the railway company paid their share. The agreement provided that no party to it should be entitled to compensation for injury or damages to their lands, by reason of the construction or maintenance of the works, a necessary part of which was the construction of a road towards and under the railway tracks, a portion of the roadway fronting on the lands of the railway company, and the city sought to charge the company with the cost of the construction of the roadway as a local improvement, under the Consolidated Municipal Act, 1892, and passed a by-law for that purpose. Held, that the work having been done under the agreement between the parties and the order in council, the local improvement clauses were not applicable and the by-law was void.

TOWNSHIP OF MORRIS V. COUNTY OF HURON.—Judgment on appeal by defendants from judgment of Meredith, C. J., (26 O. R., 689), in favour of plaintiffs, holding them entitled to recover from defendants forty per cent. of the amount expended by them in the maintenance of certain of their bridges, up to the day on which the Act, 57 Vic., ch. 50, sec. 14,

took effect, founded on an award, and holding that the saving provisions of sec. 14 of the Municipal Amendment Act, 57 Vic., ch. 50, do not operate so as by implication necessarily to exclude the application of the Interpretation Act, R. S. O., ch. 1, section 8, sub-sec. 42, and that the plaintiffs were, notwithstanding the repeal of sec. 533a of the Consolidated Municipal Act, 1892, by sec. 14 of 57 Vic., ch. 50, entitled to recover the amount expended up to the date of the passing of the latter Act; cross-appeal by plaintiffs from the same judgment seeking to recover the full amount awarded. Held, that the right of action which plaintiffs had against defendants by virtue of sub-sec. 3 of sec. 533a at the time of the coming into force of sec. 14 was not thereby affected. It was contended that this was the case of an "arbitration pending" within the meaning of sec. 14 by reason of an appeal from the award which was pending at the time the section came into force. Held, that when the award was made, the arbitration ceased to be pending, the arbitrators being functi officio. It was also contended, that as sec. 14 provided that such repeal should not affect any contract or agreement theretofore made, it was intended to affect an award theretofore made. Held, that upon the fair reading of sec. 14 with sec. 8, sub-secs. 43 and 48 of the Interpretation Act, the right of action of plaintiffs was not affected on the award done away with, for plaintiffs' right of action was really grounded upon sub-sec. 3 of sec. 533a, although the award was a necessary incident to the existence of such right of action. Judgment for plaintiffs against defendants for forty per cent. of the cost of the construction and maintenance of the bridges mentioned in the award, paid or agreed to be paid by plaintiffs prior to the 5th May, 1894, and commencing with and including the time from the commencement of the year 1893 to that date, with a reference to ascertain the amount.

MICRO-ORGANISMS OF SEWAGE.

The main drainage committee of the London county council recently brought up the following report in reference to this subject: "In accordance with the authority given by the council on January 23rd, 1894, the services of Mr. J. Parry Laws and Dr. Andrews were retained for the purpose of making investigations into the bacteriology of sewage, and their report of the result has now been laid before us. These investigations, the council may remember, were undertaken in order to obtain corroborative evidence as to the conclusions arrived at in previous reports by Mr. Laws on the micro-organisms of sewer air. In those reports it was shown that the bacteria of sewer air were related to and derived from those of fresh air, and not from those of the sewage, and that there was no evidence that sewage was able directly to give up its organisms to sewer air. For greater convenience the present report is divided into two parts, the one

dealing with micro-organisms of sewage and their relation to those of sewer air, and the other containing observations on the bacillus of typhoid fever and its relation to sewage. The latter investigations confirm in a most striking manner the conclusions arrived at from the previous experiments on sewer air. If the organisms existing in sewer air were derived from those existing in sewage the bacteria of sewage air should bear a close resemblance to the bacteria of sewage. On contrasting the prevailing organisms of sewage and those of sewer air, they are found to bear no resemblance whatever to one another, indeed so far as the authors are aware not a single colony of any of the organisms found to predominate the sewage has so far been isolated from sewage air. Attention was also specially directed to the possible occurrence of the typhoid fever bacillus, and the diphtheria bacillus in ordinary London sewage. Therefore every colony which seemed likely to belong to either of these species was the subject of careful investigation. No evidence whatever of their occurrence in ordinary sewage was found. It is pointed out that the failures to find these organisms in ordinary sewage no doubt arises from the fact that the infected material constitutes such a minute proportion of the total bulk of sewage discharged by the sewers. The mathematical chances, therefore, of detecting these organisms are exceedingly minute unless they are capable of *vigorous growth and multiplication*. Realizing this fact, search was made for the typhoid bacillus in sewers where it might be expected to exist in much larger proportions. On examining sewage taken from the sewer draining the fever block at Eastern hospital, after disinfecting had been discontinued for a short period, the existing of the typhoid bacillus was satisfactorily shown, an important fact which has not hitherto been demonstrated. A series of experiments was also made to determine the fate of the typhoid bacillus in sewage, in order to verify or disprove the statement made by many writers that disease germs such as the typhoid bacillus find in sewage a suitable soil for their growth and multiplication. On careful investigation it has been found that the bacillus of typhoid fever is not only incapable of any growth and multiplication in sewage, but that after the first twenty-four hours it slowly and surely dies out, its ultimate death under natural conditions being a matter of a few days, or at most one or two weeks. If the organisms which exist in overwhelming numbers in sewage do not exist in sewage air, how indefinitely remote is the possibility of the existence of the typhoid fever bacillus in the air of the sewers. Sewage is without doubt a common medium for the dissemination of typhoid fever; sewer polluted soil may give up germs to the sub-soil air; but from the result of these investigations it appears in the highest degree unlikely that the air of the sewers should play any part in the conveyance of typhoid fever."

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INDEX TO ADVERTISEMENTS

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Architects.
Ontario L. ... III
Quebec Dns ... II
Architectural Builders and Carvers.
Beaumont, H. ... II
Carroll, Robert ... II
Dom. Art Woodwork Company ... VII
Holbrook & Molling- ton ... I
Lamar & Metzger ... II
McCormack, W. N. ... II
Architectural Iron Work.
Dominion Bridge Co. I
Chanteloup Mfg. Co. I
Art Woodwork
Dom. Art Woodwork Company ... VII
Southampton Mfg. Co. V
Boiler Covering
Mica Boiler Covering Co. ... 90
Bicycles
Hill & Co., E. C. ... XI
Brioles (Pressed)
Beamsville Pressed Brick Co. ... I
Brockville Pressed Brick Co. ... IV
Builders' Supplies.
Bremner, Alex. ... IV
Currie & Co., W & F. P. XII
Lawrence & Wiggins. IV
Maguire Bros. ... I
Montreal Directory. IX
Ontario Lime Association. III
Rice Lewis & Son. ... IV
Toronto Directory. IX
Building Stone Dealers.
Credit Forks Mining & Mfg. Co. ... 90
Samuel & Son, Thos. ... V
Builders' Hardware.
Gurney, Tilden, Co. ... IV
Rice Lewis & Son. ... IV
Toronto Fence & Ornamental Iron Works. IV
Vokes Hardware Co. ... V

Cresosote Stains
Cabot, Samuel. ... IV
Church and School Furniture.
Can. Office and School Furniture Co. ... V
Chimney Topping.
Bremner, Alex. ... IV
Currie & Co., W & F. P. XII
Contractors' Plant and Machinery
Rice Lewis & Son. ... IV
Cements.
Bremner, Alex. ... IV
Currie & Co., W & F. P. XII
Maguire Bros. ... I
Owen Sound Portland Cement Co. ... X
Cut Stone Contractors.
Isaac Bros. ... III
Oakley & Holmes III
Drawing Tables.
Laughlin-Hough Drawing Table Co. ... II
Drain Pipe
Bremner, Alex. ... IV
Currie & Co., W & F. P. XII
Hamilton and Toronto Sewer Pipe Co. ... XII
Maguire Bros. ... I
Elevators
Fensom, John. ... IV
Leitch & Turnbull. ... I
Miller Bros & Toms. ... VI
Engravers.
Can. Photo-Eng Bureau. ... II
Fire Brick and Clay
Bremner, Alex. ... IV
Currie & Co., W & F. P. XII
Maguire Bros. ... I
Galvanized Iron Workers.
Ormsby & Co., A. B. I
Granite
Brunet, Jos. ... III

Grates, Maniles, and Tiles.
Holbrook & Mollington I
Rice Lewis & Son. ... IV
Rogers & Sons Co., Charles. ... II
Heating.
Clare Bros. ... VIII
Gurney Foundry Co., XI
King & Son, Warden III
McClary Mfg. Co. ... XI
Ormsby & Co., A. B. I
Pease Furnace Co. ... VII
Toronto Radiator Mfg Co. ... III
The James Smart Mfg. Co. ... XII
The Howard Furnace Co. ... VI
Interior Decoration
Castle & Son. ... X
Elliot, W. H. ... VI
Lime.
Currie & Co., W & F. P. XII
Mille Roches Lime Co., The. ... IV
Ontario Lime Association. ... III
Legal.
Denton & Dods. ... X
Machinery
Petric, H. W. ... X
Mortar Colors and Shingle Stains.
Cabot, Samuel. ... IV
Maguire Bros. ... I
Muirhead, Andrew. ... I
Ornamental Plasterers.
Hynes, W. J. ... VIII
Paints & Varnishes.
Muirhead, Andrew. ... I
Painters.
Gilmor & Casey. ... III
Montreal Directory. ... IX
Plasterers
Hynes, W. J. ... VIII
Paints & Varnishes
Cottingham, Walter H. V
Muirhead, Andrew. ... I
Parquetry Floors
Elliott, W. H. ... VI

Plate Glass
The Consolidated Plate Glass Co. ... II
Prismatic Glass.
Prismatic Glass Co. ... VIII
Plumbers
Montreal Directory. ... IX
Toronto Directory. ... IX
Roofing Materials
Ormsby & Co., A. B. I
Metallic Roofing Co. ... XII
Pedlar Metal Roofing Co. ... XI
Reflectors
Frink, I. P. ... X
Roofers
Ormsby & Co., A. B. I
Montreal Directory. ... IX
Toronto Directory. ... IX
Sanitary Appliances
Dakin & Co., F. B. ... X
Toronto Steel Clad Bath & Metal Co. ... VII
Shingle Stains
Cabot, Samuel. ... IV
Stained and Decorative Glass
Castle & Son. ... V
Dominion Glass Co. ... V
Horwood & Sons, H. ... V
McKenzie's Stained Glass Works. ... V
Longhurst, H. ... V
Lyon, N. T. ... V
Prismatic Glass Co. ... VIII
Shingles and Siding
Metallic Roofing Co. ... XII
Ormsby & Co., A. B. I
Pedlar Metal Roofing Co. ... XI
Soil Pipe.
Toronto Foundry Co. ... X
Wall Plaster
A'abastine Co., The. ... IV
Albert Mfg. Co. ... II
Window Blinds
Seaman, Kent & Co. ... IV
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Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: There is a fair demand for builders' supplies from country points, but of city trade nothing encouraging can be said. Heavy hardware is a little easier, and plumbers' supplies also show a slight improvement. Galvanized iron receives some call. On brass goods a material advance has taken place. The glass market is quiet, and dealers hold good stocks in hand. Paints and oils are weakening.

MONTREAL: A fairly active trade is reported in lead pipe and galvanized iron. In iron pipe the feature of the market is the irregularity in discounts. Plumbers' supplies are quiet. The arrivals of cement for last week were 3,500 barrels of English and 6,000 Belgian, as against 2,650 barrels of English for the previous week, making a total to date of 21,770 barrels English and 21,755 Belgian. The demand is principally for small lots. The arrivals of firebricks have been 50,000, as against 125,000 the previous week. Sales made at \$16 to \$22 per thousand.

LUMBER.

CAR OR CARGO LOTS.

Toronto, Montreal.

Table with columns for quantity (e.g., 1/4 to 2 clear picks, Am ins.), price in Toronto (\$), and price in Montreal (\$). Includes items like spruce culls, mill run, and shingles.

YARD QUOTATIONS.

Table listing yard quotations for mill cull boards, shipping cull boards, hemlock scantling, and cedar for kerbing.

B. M.

Table listing lumber prices for flooring (dressed, undressed), beaded sheeting, clapboarding, and sawn lath.

Toronto, Montreal.

BRICK—M

Table listing brick prices for common walling, good facing, sewer, pressed brick, red, buff, brown, Roman, sewer, roof tiles, hip tiles, ridge tiles, and ornamental.

SAND.

Table listing sand prices per load of 1 1/2 cubic yards.

STONE.

Table listing stone prices for common rubble, large flat rubble, foundation blocks, Kent freestone, River John, Freestone, Ballochmyle, New York Blue Stone, Granite, Moat Freestone, Thomson's, Credit Valley, Credit Valley Brown, Credit Valley Grey, Clark's N. B. Brown Stone, Brown Free Stone, Madoc Rubble, Madoc dimension floating, Cape Hauld, and Cocaigne.

OHIO PRESTONE, FROM THE GRAPTON STONE CO.'S QUARRIES.

Table listing Ohio Prestone products like No. 1 Buff Promiscuous, No. 1 Blue Promiscuous, Sawed Ashlar, and Sawed Flagging.

SLATE.

Table listing slate prices for roofing (red, purple, unflading green, black) and Terra Cotta Tile.

PAINTS. (In oil, \$ lb.)

Table listing paint prices for white lead, red lead, venetian, vermilion, Indian, yellow ochre, green chrome, Paris, black lamp, blue, ultramarine, oil, linseed, putty, whitening, Paris white, litharge, Sienna, and Umber.

CEMENT, LIME, etc.

Table listing cement prices for Portland Cements (German, London).

Toronto, Montreal.

Portland Cements.—

Table listing Portland Cement prices for Newcastle, Belgian, English, Belgian, Canadian, Roman, Parian, and Superfine.

Hydraulic Cements.—

Table listing Hydraulic Cement prices for Thorold, Queenston, Napanee, Hull, and Ontario.

Table listing Keene's Coarse Whites and Fire Bricks.

Table listing Lime, Plaster, and Hair prices.

HARDWARE.

Table listing hardware prices for cut nails and steel.

CUT NAILS, FENCE AND CUT SPIKES.

Table listing cut nails and spikes prices for 40d, 30d, 20d, 10d, 8d, 6d, 4d, and 3d.

FINE BLEND NAILS.

Table listing fine blend nails prices for 3d and 2d.

CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX NAILS.

Table listing casing and box nails prices for 12d to 30d.

FINISHING NAILS.

Table listing finishing nails prices for 3 inch and 2 1/2 inch.

SLATING NAILS.

Table listing slating nails prices for 5d, 4d, 3d, and 2d.

COMMON BARREL NAILS.

Table listing common barrel nails prices for 1 inch and 3/4 inch.

CLINCH NAILS.

Table listing clinch nails prices for 3 inch and 2 1/2 inch.

SHARP AND FLAT PRESSED NAILS.

Table listing sharp and flat pressed nails prices for 3 inch and 2 1/2 inch.

STEEL WIRE NAILS.

Table listing steel wire nails prices for iron pipe and various sizes.

Lead Pipe:

Table listing lead pipe prices for 16 to 24 gauge.

Galvanized Iron:

Table listing galvanized iron prices for Adam's-Mar's Best and Queen's Head.

Structural Iron:

Table listing structural iron prices for steel beams, channels, angles, tees, plates, and sheared steel bridge plate.