

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Covers damaged/
Couverture endommagée

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Cover title missing/
Le titre de couverture manque

Coloured maps/
Cartes géographiques en couleur

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Bound with other material/
Relié avec d'autres documents

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Additional comments:
Commentaires supplémentaires:

Coloured pages/
Pages de couleur

Pages damaged/
Pages endommagées

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Pages detached/
Pages détachées

Showthrough/
Transparence

Quality of print varies/
Qualité inégale de l'impression

Continuous pagination/
Pagination continue

Includes index(es)/
Comprend un (des) index

Title on header taken from: /
Le titre de l'en-tête provient:

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF CONTRACTING

PUBLIC WORKS • TENDERS • ADVANCE INFORMATION • AND MUNICIPAL PROGRESS

EVERY WEDNESDAY

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.

Vol. 9.

JANUARY 11, 1899

No. 50.

THE CANADIAN CONTRACT RECORD, PUBLISHED EVERY WEDNESDAY

As an Intermediate Edition of the "Canadian Architect and Builder."

Subscription price of "Canadian Architect and Builder" (including "Canadian Contract Record"), \$2 per annum, payable in advance.

G. H. MORTIMER PUBLISHING COMPANY
of Toronto, Limited,
Publishers.

CONFEDERATION LIFE BUILDING, TORONTO.
Telephone 2362.

Branch Office:
New York Life Insurance Building, Montreal.
Bell Telephone 2299.

Information solicited from any part of the Dominion regarding contracts open to tender.

Advertising Rates on application.

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publisher of any irregularity in delivery of paper.

TENDERS WANTED

Tenders will be received up to noon of 17th JANUARY 1899, for installing a Gasoline or Oil Engine, Day-light Dynamo and Mill Pump in a Residence in Newcastle, Ontario.

Plans may be seen at the office of the undersigned. The lowest or any tender not necessarily accepted.

CHADWICK & BECKETT, Architects,
Saturday Night Building, Toronto.

TENDERS WANTED

Tenders are asked by the County Council of Kent for the construction of a through pin-connected Steel Truss Bridge of two hundred and two feet span over the River Thames, at the site of the Moravian bridge, in the County of Kent, Ontario, and of two Masonry Abutments.

Plans and specifications by W. G. McGeorge, County Engineer, may be seen at the office of the County Clerk at Chatham, or specifications may be obtained by applying to him.

Tenders must be in the County Clerk's hands on or before the 14th DAY OF JANUARY, 1899.

No tender necessarily accepted.

J. C. FLEMING,
Clerk County Kent.

Chatham, Dec. 28th, 1898.

TO CONTRACTORS

Sealed Tenders, addressed to the undersigned, will be received until 10 a.m. on

Tuesday, the 24th of January, 1899,

for building Concrete Abutments for two bridges in the County of Elgin, and also for two bridges between the Cos. of St. Thomas and the County of Elgin.

Plans and specifications can be seen at the office of the undersigned.

The committee reserves the right to reject any or all tenders.

JAS. A. BELL,
Engineer for County of Elgin
and City of St. Thomas.

TENDERS WANTED

Sealed tenders, addressed to the undersigned, will be received until 12 o'clock on WEDNESDAY, THE 25th DAY OF JANUARY, 1899, for the

Hot Water Heating and Plumbing

required in the Court House for the County of Elgin. Plans and specifications can be seen and forms of tender obtained at the office of N. R. Darrach, Architect, Talbot Street St. Thomas, Ont.

A deposit in the form of a marked cheque payable to the County Treasurer, for 3 per cent. of the amount of tender, must accompany each bid, also signature of parties offered as security for the due completion of the work.

The lowest or any tender not necessarily accepted.

K. W. MCKAY,
Clerk of the County of Elgin,
St. Thomas, Ont.

TENDERS WANTED

Sealed tenders will be received by the undersigned, on behalf of the County of Humber, until 12 o'clock on SATURDAY, THE 15th DAY OF JANUARY, INST., 1899, at the Wingham Post-office, for

Furnishing and Erecting the Super-structure of a Steel Bridge

over a branch of the Maitland River, on the late line, about four miles from the town of Clinton, on the G.T.R. It will rest on concrete abutments (to be 100 feet long between the abutments) of seven panels, joints 3' 11/2 inches, floor 3 inches thick, plank from 6 to 10 1/2 inches wide, of rock elm or tamarac; required strength 100 lbs. per square foot, with long cast-iron factor; roadway 16 feet wide, railing 4 feet high; 23 feet from bed of stream to floor bridge to be completed on or before the 1st of September next, 1899; 5000 pounds to build hard bottom to the stream.

The lowest or any tender not necessarily accepted. See utility required for the due completion of contract. Further information may be had by addressing

JOHN ANSLEY,
County Commissioner.

Wingham, Jan. 2nd, 1899.



EXTENSION OF TIME

TENDERS FOR CHAIN FERRY

Notice is hereby given that the time for receiving tenders for the construction of a Chain Ferry with the necessary Cribwork, etc., across the western entrance to the Ontario Harbour, has been extended until WEDNESDAY, THE 25th JANUARY 1899.

Plans and specifications may be seen, and all further information obtained, upon application at the office of the City Engineer, on and after Wednesday, the 11th inst.

Tenders must be sent to the undersigned through registered post, and be accompanied by a marked cheque or cash deposit equal to 2 1/2 per cent. of the amount thereof, and bear the bona fide signatures of two witnesses.

Should the party whose tender is accepted fail to execute the necessary contract and give security satisfactory to the City Treasurer for the due performance of his tender, his deposit will be forfeited to the city.

The deposit of unsuccessful tenderers will be returned. The lowest or any tender not necessarily accepted.

JOHN SHAW (Mayor),
Chairman Board of Control.

City Hall, Toronto, January 6, 1899.

CONTRACTS OPEN.

CATHCART, ONT.—Fred Coslin proposes enlarging his cheese factory in the spring.

REDICKVILLE, ONT.—John White is preparing to build a new dwelling next summer.

FORT COLBORNE, ONT.—There is a movement on foot to have the town hall enlarged.

SHAWVILLE, QUE.—The business men are moving to secure the erection of a grist mill.

FORT SASKATCHEWAN, N. W. T.—A brick church will be built in Sturgeon district.

WESTPORT, ONT.—It is reported that a high school will be built here during the coming summer.

THILSONBURG, ONT.—The by-law to establish a market was carried by the ratepayers on January 2nd.

BRANTFORD, ONT.—A recent flood carried away about 200 feet of the mattress dam at Two Fish Island.

LONDON, ONT.—The citizens are agitating for the construction of a subway under the G.T.R. crossing.

WOODSTOCK, ONT.—The town council, on Monday last, passed a by-law authorizing the borrowing of \$42,000.

THREE RIVERS, QUE.—A syndicate proposes to erect a large abattoir here, upon conditions of exemption from taxation.

HAWKESBURY, ONT.—At a public meeting held last evening, the proposed Georgian Bay canal project was heartily endorsed.

BRADFORD, ONT.—The by-law to raise \$6,000 for putting in an electric light plant was defeated by the ratepayers on the 9th inst.

SEAFORTH, ONT.—The town will apply for power to loan Mr. T. R. F. Case \$20,000 with which to start a park-packing establishment.

CHESTERVILLE, ONT.—An effort is being made to raise the necessary money to build a large park-packing establishment.

PENBROKE, ONT.—A by-law to raise \$10,000 for the extension of the sewerage system received the approval of the ratepayers on January 2nd.

VARNA, ONT.—The ratepayers of school section No. 7, Stanley township, will vote on the question of having new seats placed in the school.

THORNHILL, ONT.—A meeting of the trustees of the Methodist church was held last week to arrange for the installation of modern heating apparatus.

TIVERTON, N. S.—It is the intention of Capt. Burton Outhouse to build a residence in the spring.—A. Handspiker proposes enlarging his residence.

VICTORIA, B. C.—The question of erecting a cottage for the insane in connection

with the Jubilee Hospital is being considered by the hospital authorities.

CHESTER, N. S.—The plan of Thomas Craven, architect, for a summer hotel to be built here, has been accepted. The building is to be completed by June 1st.

MIDLAND, ONT.—The Board of Trade has endorsed the proposition to construct a loop-line railway from a point between Allandale and Collingwood to Bradford.

SHERBROOKE, QUE.—Tenders close on 15th inst. for lighting the streets of the city by electricity. Particulars from C. W. Cate, chairman Special Light Committee.

PORTAGE LA PRAIRIE, MAN.—A Toronto banking institution purpose erecting a building here next summer. An offer was recently made for a site on Saskatchewan avenue.

WHITBY, ONT.—There is friction between the town and the Whitby Electric Light Company, and as a result some of the councillors favor the installation of a municipal plant.

KEMPTVILLE, ONT.—John Martin has purchased a lot on which to erect a dwelling house.—The Dominion government is being urged to build a swing bridge at Clothier's wharf.

ST. CATHARINES, ONT.—The superintending engineer of the Welland Canal invites tenders up to January 17th for annual supplies, including timber, hardware, oil, fuel, etc.

BELLEVILLE, ONT.—Mr. A. W. Campbell, Provincial Road Commissioner, is today in consultation with the Ameliasburg council regarding the construction and location of new roads and bridges.

EDMONTON, N.W.T.—It is proposed to form the Farmers' Milling and Elevator Company, with a capital of \$25,000, to build a flour mill and elevator here. R. Dinwoodie has been appointed secretary.

MIDDLEVILLE, ONT.—The ratepayers of the township of Lanark passed a by-law on the 2nd inst. to raise \$1,200 by debentures for the erection of a new town hall. Tenders for the building will be invited immediately.

KAZABAZUA, QUE.—Mr. C. B. Major, M.P.P., and Mr. Vallee, Quebec government engineer, were in town recently conferring as to the building of a bridge at this place. It is probable that an iron structure will be built.

PORT DALHOUSIE, ONT.—The Toronto Rubber Shoe Manufacturing Company, whose factory here was burned recently, have not yet reached a decision as to rebuilding. It is thought that the company will remove to some other point.

CHATHAM, ONT.—James L. Wilson & Son, architects, have prepared plans and invite tenders up to January 14th for the erection of a brick veneered residence for Samuel R. Montgomerie, lot 19, 9th concession of Dover township.

HINTONBURG, ONT.—The by-law to establish a waterworks system having been carried by the ratepayers, the council will at once proceed to have plans prepared and tenders invited. Construction will commence in the early spring.

GASPE, QUE.—The Petroleum Oil Trust, of this place, has applied to the legislature for authority to construct a pipe line from the Gaspé oil lands to deep water, and to erect all necessary wharves, warehouses, pumps, tanks, etc.

OWEN SOUND, ONT.—John Harrison purposes building an addition to his planing mill, 60 x 60 feet, two storeys high.—The by-law to establish a House of Refuge for the county of Grey was carried by the ratepayers at the municipal elections.

KINGSTON, ONT.—The insurance appraiser has estimated the loss on St. George's cathedral at \$72,780. The congregation have decided to rebuild immediately.

—The trustees of Victoria Hall are considering plans for converting the building into an opera house.

GALT, ONT.—The council has offered the Dominion government a site in Dickson Park on which to build an armory.—A by-law to raise \$67,750 by debentures for the purchase of the existing gas and electric light plants was defeated by the ratepayers on Monday last.

VANCOUVER, B.C.—Mr. Edward Maxwell, architect, of Montreal, has arrived in the city, and will make arrangements at once for the building of the proposed addition to the Hotel Vancouver.—The Bank of Hamilton will convert the Horse block into suitable banking premises.

WHITE LAKE, ONT.—The proposed Presbyterian church, for which plans have been prepared by Mr. M. C. Edey, architect, of Ottawa, will be frame, with brick veneer, and will cost about \$2,500. The contract has not yet been awarded. Particulars may be obtained from Mr. D. J. Graham.

GRAND FORKS, B.C.—The upper Grand Forks town site has been purchased by an eastern syndicate, represented by J. C. McArthur, of Rossland, and A. W. Ross, of Toronto. It is understood that the purchasers contemplate doing considerable building in the early spring.

CORNWALL, ONT.—The by-law to raise the sum of \$10,000 for the purpose of making certain changes in the pump house, and for the purchase of a water wheel, power pump and other appliances for the waterworks, was carried by the ratepayers on the 2nd inst. A by-law to raise \$35,000 was also approved of.

WINCHESTER, ONT.—A deputation from this vicinity interviewed the Dominion government last week in connection with the building of a railway from Rockland to Prescott. The distance is 42 miles, and it is claimed that the road could be built for \$5,000 per mile. Mr. W. C. Edwards, M.P., will be asked to take the matter in hand.

HULL, QUE.—The by-law to establish a municipal electric light plant having been sanctioned, the city will proceed at once to install the plant, which will consist of two 50 light dynamos, seventy-five 1,200 c.p. arc lamps, and some eight miles of lines, at an approximate cost of \$8,000. Bids for the above will be invited. The city own a good water power, which will be utilized for the purpose.

SARNIA, ONT.—At the meeting of the Board of Education held on Friday last, the question of increased school accommodation was discussed. The opinion seemed to prevail that a two-room building on the site of the Wellington school and a two-room addition to the Fourth Ward school would meet the requirements.

PARRY SOUND, ONT.—At a meeting of the Board of Trade, held on the 5th inst., a report was presented by a sub-committee recommending the construction of an electric railway to connect Parry Sound and Depot Harbor; estimated cost, \$25,000, exclusive of a bridge to be constructed.—The construction of a new bridge over the Seguin river is being urged.

HALIFAX, N.S.—At the last session of the provincial legislature, Mr. M. Chisholm and others, of this city, were incorporated as the Bedford Electric Company, to build an electric railway in Halifax county. It is now reported that the company have in contemplation the building of a line around Bedford Basin, through Dartmouth and down to Cow Bay.—It is said that the scheme for a large hotel has been revived, and that plans have been prepared.

TRENTON, ONT.—R. Waddell, who owns a controlling interest in the waterworks system, is negotiating for the amal-

gamation of the electric light and waterworks companies, with a view to increasing the power plant so as to operate both systems and supply power to manufacturers. He has also in view the lighting of Belleville, 12 miles distant, and the operation of the electric railway and waterworks there.

NIAGARA FALLS, ONT.—It is stated that nothing will be done towards rebuilding the Clifton House until next spring, but work will then be carried on vigorously, so as to have the hotel opened, if possible, during the summer season. The plans for the new hotel have been prepared by Messrs. Darling & Pearson, architects, of Toronto.—A rumor is current that the Michigan Central Railroad Company purpose building a large hotel on the Canadian side, on property owned by them near the falls.

HAMILTON, ONT.—At the annual meeting of the Central Presbyterian church, held on Monday night last, the report of the management suggested improvements in the church building, and a committee was appointed to report thereon.—Mayor-elect Teetzel, in his inaugural address, referred to the question of street construction. He stated that the block pavements should be removed, and favored the use of macadam. It would be necessary to submit a debenture by-law for the purpose, which he believed would be ratified.

MONTREAL, QUE.—It is stated that a representative of the T. Eaton Company, of Toronto, has been in the city inspecting the site of the Greenshield's block, with a view to erecting a departmental store thereon.—The Board of Trade will bring to the attention of the Governor-General-in-Council the necessity of improvements in the lights and buoys of the St. Lawrence.—The Montreal Street Railway Company have decided to concentrate the whole of their business at the Hochelaga workshops. The company intend in the spring to build large brass and iron foundries, and it is understood that in future the company will not only build the cars for the Montreal system, but also those for the other street railways in Canada in which they own a controlling interest.—The Montreal Island Belt Line Railway wants power from the government to extend its line to Berthier.—The Chaudiere Valley Railway Company are asking for power to extend their line through the counties of Bellechasse, Dorchester and Lotbiniere.

NEW WESTMINSTER, B.C.—A Bachon will shortly erect a new frame hotel on Begbie street, three storeys, 45 rooms, cost \$9,000.—The city council has refused the application of Emil Guenther, architect, for permission to erect a three storey frame building, with sides covered with galvanized steel, on the site of the old Eickhoff House. The proposed building is within the fire limits.—Clow & Welsh, architects, have prepared plans and specifications for the new wharf and warehouse for the Brackman & Ker Milling Company. The wharf will be 198 x 87 feet, supported by 2,000 piles. The warehouse building will be 190 x 80 feet, and will include granary 95 x 40 feet, cattle shed 80 x 30 feet, and store-room 65 x 37 feet. The roof and sides will be covered with iron and there will be a large skylight and ventilator. Gilley Bros. have been awarded the contract for the piles and Anderson & Co. that for the iron sheeting, but the contract for the framework has not yet been let.—It is understood that Mrs. William Rae intends building a large block of stores on the site of the old Colonial Hotel.

OTTAWA, ONT.—The city engineer will, on the 16th inst., hold a final conference with the representatives of the government and the Canada Atlantic Railway in reference to the new Maria street

bridge. The work on this structure will be commenced in the spring, and the cost (\$35,000) is to be borne conjointly by the government and the railway.—The Board of the Home for Friendless Women has decided to issue an appeal to the public for funds with which to secure a permanent home. The sum of \$8,000 is required.—The proposal to erect a suitable hall and headquarters for the Irish national and fraternal societies of the city has again been revived. At the next meeting of the St. Patrick Literary and Scientific Association some action in that direction will likely be taken.—George Roe has purchased the building formerly occupied by the Baldwin Iron Works Company, and will remodel it and add new machinery, with the intention of going into the iron-working business.—The Ottawa Abattoir Company have purchased property to the northwest of the village of Hintonburg as a site for their proposed pork-packing establishment. In addition to providing slaughter houses for the butchers, immense cold storage and freezing departments will be constructed.—Work on the new Anglican church, corner Chapel and Theodore streets, will be commenced early in the spring. The church will have seating accommodation for 400 people.—The Christian Brothers, who recently purchased the Lalsalle school on Sussex street, have also secured the large house adjoining and the vacant lot extending to St. Andrews street. The interior of the house will be remodelled, and it is probable that at a later date a large addition will be made to the building.

TORONTO, ONT.—The Dominion Radiator Company have purchased all the vacant land south of their present premises to Melbourne avenue, with a view to the enlargement of their factory.—George H. Hees, Son & Co., window shade manufacturers, have purchased the property at 71 King street west. The building will be remodelled and fitted up for the company's offices.—Thomas Crawford, F. Hunisett, John Dunn and others have been incorporated as the Toronto Packing Company, with a capital of \$40,000. The site of their factory has not yet been decided upon.—The old Doel house property, at the north-west corner of Adelaide and Bay streets, has been purchased by Mr. Black, vice-president of the Commercial Travellers' Association. It is probable that a new building will be erected on the site.—Mr. E. H. Keating, manager of the Toronto Railway Company, has been instructed by the directors to submit a report on the advisability of constructing suburban railways. Should the scheme be considered profitable, it is probable that lines will be built to Oakville, Lake Simcoe, Whitby, and other points.—The authorities of Victoria College are negotiating for the purchase of a block of land lying north of Czar street and east of Avenue road, now owned by the Toronto University. It is thought that the property is desired by the Victoria College authorities for the erection of a women's residence. Another project which is spoken of is the building on this site of a number of dwellings, to be rented to members of the University staff.—The Harbor Master urges that a memorial be submitted to the Dominion government, without delay, asking for aid towards carrying out the proposed improvements to Toronto harbor.—The time for receiving tenders for the construction of a chain ferry, with the necessary crib work, etc., across the western entrance to the harbor, has been extended to Wednesday, 25th inst.—Mayor Shaw, in his inaugural address, referred to the necessity of improving the cattle market and proceeding at once with the improvements to the St. Lawrence market. In his opinion detailed plans for the latter work should be called for at once. He also referred to the ad-

vantages that would accrue to Toronto by the construction of railways from Haliburton to Mattawa, from Toronto, Barrie or Waubesa to Sudbury, from Toronto to James Bay, and from Verner northeasterly to Tenagami Lake.—The Toronto Railway Company is said to have secured a controlling interest in the Toronto Cold Storage Company, the intention being to extend the operations of the latter company and eventually to establish an extensive cold storage plant.—Ald. Davies has given notice that he will move at the next council meeting that the city advertise for a supply of electricity for light, heat, and power purposes.—Ald. Dunn will move that the city engineer report to the Committee on Works on all roadways and sidewalks which require renewing during the coming summer, the cost of construction of a sidewalk and bicycle path along the western point of the island, and also that the Property Committee include in their estimate a sufficient sum to provide a suitable clock for the tower of the Ossington avenue fire hall.—Tenders will close to-day in the offices of Geo. W. Gounlock, architect, for the several trades required in the erection of an office building on King street for the National Trust Co. Mr. Gounlock will also in the course of a week advertise for tenders for a large building on Main street, Winnipeg, for the Manitoba Trusts Company of Winnipeg.

FIRES.

Recent fires included the following: Bernardin's Hotel at Terrebonne, Que., building totally destroyed; damage \$10,000, insurance \$3,000.—The outbuildings, composed of barns, stables, machinery sheds, silo, and carriage shed, of J. G. Clark, near Britannia, Ont., completely destroyed; loss \$30,000, covered by insurance.—St. Bridget's church, in Logan township, near Mitchell, Ont., burned on January 7th.—A large portion of the business houses on the west side of Main street, West Lorne, Ont., destroyed on January 3rd. Some of the losers are: P. Sinclair, Skinner Bros., E. R. Moug, H. Keifer, and Balwan & Zimmerla—Victoria brewery at Cobourg, Ont., owned by Bickle & Healy, totally destroyed; loss on buildings \$12,000, insurance \$5,000.—The electric light and gas works at St. Hyacinthe, Que., seriously damaged, buildings, engines, dynamos and machinery being destroyed; loss \$10,000, covered by insurance. The owner of the works is Louis Brosseau.—A Bennett's frame hotel at Port Robinson, Ont., totally destroyed; no insurance.—Brick store occupied by Pierce Bros., and two double dwelling houses at Warren, Ont.; loss \$14,000, covered by insurance.—Drug store of D. Woodhull and general store of J. Bradley at Hartney, Man.—The Johnston House block at Petrolia, Ont., including the old Johnston house, two barber shops, billiard room and store; loss \$10,000.—Residence of Richard Robinson, near Lambeth, Ont.; insurance, \$1,000.—Dwelling house and general store of D. Shanks, at Paisley, Ont.; loss on building, \$900.—Joyner & Elkington's grist mill at Fort Qu'Appelle, N. W. T.; loss \$25,000, insurance \$16,000.—Residence of Mrs. S. Whaley, in Ancaster township, near Hamilton, Ont.; totally destroyed.—American Hotel at Kingston, Ont., badly damaged.

CONTRACTS AWARDED.

QUEBEC, QUE.—The contract for building the new car shops at St. Sauveur has been let to Alexander Cummings; tender, \$15,000.

VICTORIA, B. C.—The city has purchased a fire engine from the Waterous Engine Works Company, of Brantford, Ont.; price, \$4,950.

EDMONTON, N. W. T.—The contract for the construction of the bridge over the Saskatchewan river has been let to the Dominion Bridge Company, of Montreal.

WINNIPEG, MAN.—Foley Bros. have secured the contract from the Bedlington Railway Company for the building and finishing of its railway from the United States border to Keskenoak, B. C.

BIDS.

OSHAWA, ONT.—Four tenders were received for the construction of a water-works system for the town, as follows: \$114,623, \$113,999, \$103,800, \$105,925. The vote on the by-law takes place on January 21st.

VANCOUVER, B. C.—Tenders have been taken for the construction of the Flack building, corner Hastings and Cambie streets, but as yet the contract has not been awarded. The structure will cost in the vicinity of \$90,000.

BUSINESS NOTES.

Mr. C. Baillarge, city engineer of Quebec, has tendered his resignation to the city council, owing to his advancing years.

A meeting of the creditors of Craig, McArthur & Company, dealers in plumbing supplies, Toronto, is being held to-day.

Judge Mathieu has granted the application of John L. Reay for a winding up order for the Londonderry Iron Company, of Londonderry, N. S., with head office in Montreal. The company has a capital stock of \$800,000, and its shareholders belong to England, Nova Scotia and Montreal.

COLORING METALS.

METALS may be rapidly colored by covering their surfaces with a thin layer of sulphuric acid. According to the thickness of the layer and the duration of its action, there may be obtained tints of gold, copper, carmine, chestnut brown, clear aniline blue, and reddish white. These tints are all brilliant, and if care be taken to scour the metallic objects before treating them with the acid, the coloring will suffer nothing from polishing. On making a solution of 640 grains of lead acetate in 3,450 grains of water, and warming the mixture to eighty-eight degrees or ninety degrees, it decomposes and gives a precipitate of sulphurate of lead, in black flakes. If a metallic object be immersed in the bath, the precipitate is deposited upon it, and the color produced will depend upon the thickness of the deposit. Care must be taken to warm the objects to be treated gradually, so that the coloration may be uniform. Iron treated in this way has the aspect of bluish steel; zinc, on the contrary, becomes brown. On using an equal quantity of sulphuric acid, instead of the lead acetate, and warming a little more than in the first case, common bronze may be colored of a magnificent red or green, which is very durable. Very beautiful imitations of marble may be obtained by covering the bronzed objects, warmed up to 100 degrees, with a solution of lead thickened with gum tragacanth, and afterwards submitting them to the action of the precipitate spoken of above.

RESISTING POWER OF IRON AGAINST FIRE.

In an article in *Stahl und Eisen*, it is stated that the best protector for iron in the construction of buildings is cement. By exposing pieces of iron which had been interred for a long time in cement, it was proved that rust cannot assail iron so protected, provided the cement envelopes the iron round about, so that no hollow spaces exist between the iron and the coat of cement. Slag cement would not be suitable, as it contains acids. The destruction of iron and stone buildings which were supposed to be proof against fire show that they had no claim to be so considered; they often fell in shortly after the outbreak of fire. It was, however, discovered later that the collapse was due to the metal joints, which were mostly cast or wrought iron, losing their carrying power.

From this it was recognised that the iron had to be protected from the direct action of the fire, thereby preventing the loss of carrying power and expansion. The municipal government of Hamburg caused exhaustive tests to be made, identical in all respects to the conditions to be met with in a great conflagration, and these tests included cast and wrought iron and wooden supports. The supports were placed upright into an iron frame, and hydraulic pressure of about 15,000 lbs. to the square inch put on. To heat the supports a furnace lined with firebrick and provided with gas burners was used. The furnace consisted of two parts, which could be closed and opened at will, and arranged on upright shafts. The supports passed through the furnace so that a little space was left between the supports and top and bottom of furnace, and permitting the introduction of air from below and exhausting the gases of combustion above.

According as the heat was regulated faster or slower it was shown that unprotected iron supports lost their carrying power in from seventeen to fifty-nine minutes. The supports filled with mortar scarcely showed any better results, and proved again the necessity of encasing the supports by a fireproof or non-conducting material, which would delay the advance of heat to the iron, and possess sufficient strength to resist the shock of the falling debris and the stream of water thrown by a fire engine.

In the subsequent tests the supports were encased in slabs of plaster of paris, xylite, stone, wood, asbestos, or cement. The iron supports provided with such a casing retained their carrying power for as long as three hours and fifty-six minutes. An oak support without casing withstood a similar pressure in the fire for only one hour and twenty-one minutes. The heat of the flame ranged from 1,100 to 1,300 degrees Centigrade.

MARKET CONDITIONS.

There has been an advance in the price of wire nails, and \$1 75 represents the ruling figure for cutloads and \$1 80 for small quantities, f. o. b. Toronto. The demand is quite brisk. An increasing trade in galvanized iron is reported, and the outlook for spring trade is good. Very little is doing in cement, building paper, and glass.

In Montreal a leading feature is the continued strength in turpentine, which has made a further advance, sales of single barrels being made at 65 cents. The cement market is quiet, although steady, and the demand for firebricks is fair. Pig iron is held at firm prices, No. 1 Hamilton being quoted at from \$15 to \$15.50.

THE AMERICAN BOARD RULE.

The American board rule is founded upon the principle that a foot of lumber is one inch thick and 12 inches square, and that this is composed of 12 pieces one inch wide and 12 inches long. In a 12-foot board it takes a strip one inch wide the whole length of the piece to make a foot of lumber; in a 14-foot board it takes a strip the whole length of the board only 12 1/4 of an inch wide, and if 16 feet long only 12-16 of an inch wide, and by the same theory an inch in width in a 12-foot board, as has been stated, makes one foot of lumber; a strip an inch wide in a 14-foot board makes 14-12 of a foot, or one foot and 2-12 or 1/6 of a foot over. But as the figures on the board represent the number of feet in a board whose width corresponds with those figures, it must be seen that in a 12-inch board, as has already been stated, it takes an inch in width to make one foot, hence the figures in the 12-foot run are all exactly one inch apart on the length of the rule; but in a 14-foot board it requires only 12-14 or 6-7 of an inch in width to make a foot of lumber, hence in the 14-foot run the figures are placed 6-7 of an inch apart. In a 16-foot board it requires only 12-16 or 3-4 of an inch in

width to make a foot, hence in the 16-foot run the figures are only 3-4 of an inch apart. The same rule holds good in all lengths over 12 feet, but in lengths under 12 feet the rule is reversed, the spaces being wider between the figures. For instance, if the board is only 10 feet long it will require 10-12 or 1 1-5 inches in width to make one board foot, hence in the 10-foot run the figures are 1 1-5 inches apart. In the 11-foot run they must be 1 1-11 inches apart.—O. S. Whitmore, in *D.A.C.*

FILLING IN OF CRACKS IN PLASTERED WALLS.

W. A. St., Cincinnati, O., writes to the *Painter's Magazine* that he has had trouble with filled-in cracks in an old plastered wall showing through after repainting, the spaces appearing very much darker than the rest of the surface, and desires to know whether the fault is in the paint or in the plaster used for filling in, stating that the old wall was a lavender tint, while the new color was a tint made from pure, white lead and a trifle of prussian blue with a semi-gloss finish.

The reply given is as follows: From Mr. St.'s statement it appears that he has simply cut out the cracks and filled them with a plaster of paris putty, without, however, taking the precaution to stop the suction in the new plaster with which the cracks were filled. While it is perfectly proper to fill in cut-out cracks in old walls with plaster which is mixed with a thin glue size, the plaster should, as soon as it becomes hard, be coated with white shellac varnish, or better still, fill in the shrinkage with hard glaziers putty (previously mixed with some dry lead and a trifle of good japan). This dry, sand-paper down to the level of the wall and coat the putty with paint of the color that is on the wall. Should one coat dry too flat, give another, and if necessary, still another, until the filled-in portions match the old effect. When this is done there will be no absorption, and consequently the old cracks will not show through after repainting. No, we do not think that the cause of the trouble was either in the plaster or in the paint, for in that case defects should have been found on the rest of the surface.

CHARLES HUGHES - Milton West, Ont.

All Kinds of Municipal Work

CURBING, CROSSING, CHANNELLING, FLAGGING, ETC.

Rough Heavy Lime-stone for Breakwater Cribbing, Etc.
Credit Valley Grey Dimension, any size, Sills, Steps, Coursing, Bridge Blocks, Engine Beds.
— Estimates Given for All Kinds of Cut Work —

JOSSON CEMENT .. Manufactured at..
NIEL ON RUPELL

Is the Highest Grade Artificial Portland Cement and the Best for High Class Work. Has been used largely for Government and Municipal Works.

TO BE HAD FROM ALL CANADIAN DEALERS

C. I. de Sola, Manager in Canada .. 180 St. James Street, MONTREAL

MUNICIPAL DEBENTURES wanted for foreign clients. We can place Debentures direct with foreign clients without charge to municipalities.

ÆMILIUS JARVIS & CO. (Member Toronto Stock Exchange) — 23 King St. West, TORONTO —
Stock and Bond Brokers. Investment Agents.

ELECTRIC RAILWAY BONDS PURCHASED.

STOCK EXCHANGE ORDERS PROMPTLY EXECUTED

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

DEBENTURES BOUGHT

Municipalities saved all possible trouble by applying to

G. A. STIMSON & CO.
Investment Dealers

24 and 26 King St. W. - TORONTO

ARTIFICIAL STONE PAVEMENTS

SIDEWALKS A SPECIALTY

CORPORATIONS Will do well to consider our work and prices before letting contracts

The Silica Baritic Stone Company of Ontario, Limited.

WALTER MILLS, General Manager. Head office: INGERSOLL, ONT.

THE HERCULES CULVERT CO.

Manufacturers of

Portland Cement

Culvert Pipe

Culvert Arches

HOG-TROUSHS, CURBING, Etc., and GENERAL CONTRACTING and SUPERVISION of all CEMENT AND CONCRETE STRUCTURES. Guaranteeing permanence and satisfaction. For Prices, Estimates and Further Particulars write . . .

The Hercules Culvert Co. - HAMILTON

Please mention the CONTRACT RECORD when corresponding with advertisers.

ENGINEERS

WILLIS CHIPMAN

Hon. Grad. McGill University.
M. Can. Soc. C.E. M. Am. Soc. C.E.
Mem. Am. W.V. Ass'n.

WATERWORKS, SEWERAGE WORKS, GAS WORKS, ELECTRIC LIGHT AND POWER PLANTS

Reprts, Surveys, Construction, Valuations
103 BAY STREET - TORONTO

RODERICK J. PARKE

Consulting Electrical Engineer

MUNICIPAL ELECTRICAL LIGHTING
COMMERCIAL POWER INSTALLATIONS

Isolated Electrical Lighting and Power Plants for Manufactories. Estimates, Specifications, Advice on Tenders, Valuating.

310 Temple Building - TORONTO, CANADA

VAUGHAN M. ROBERTS

Civil and Sanitary Engineer

Waterworks, Sewers, Electric Light,
Electric Railways.

Plans and Specifications prepared.—Work Superintended. 28 Ontario Street,
ST. CATHARINES

E. A. WALLBERG, C.E.

BRIDGE ENGINEER

Bell Telephone Building, MONTREAL

Bridges, Buildings, Foundations, Plans, Specifications, Superintendence and Expert Reports on existing structures . . .

DAVIS & VAN BUSKIRK

Graduates Royal Military College of Canada.

CIVIL ENGINEERS

SPECIALTY: Municipal Engineering, including Drainage, Sewerage, Sewage Disposal, Waterworks, Roadways and Irrigation.

W. F. Van Buskirk, A. M. Can. Soc. C. E., Stratford.
Wm. Mahlon Davis, M. Can. Soc. C. E., Woodstock.

THE PHOENIX BRIDGE & IRON WORKS

Civil Engineers and Contractors

BLACKSMITHS AND MACHINISTS

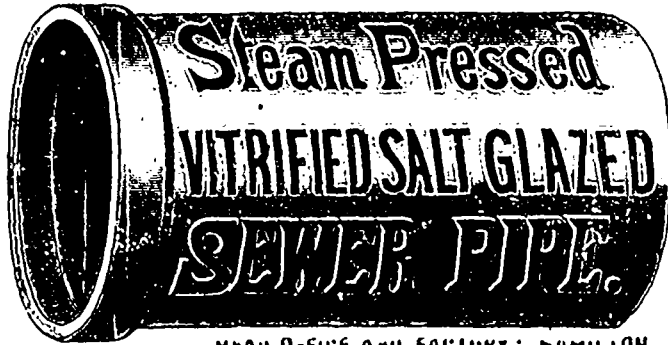
STEEL AND IRON STRUCTURAL AND ARCHITECTURAL WORK

Beams, Channels, Angles and Tees always in stock.

29 to 49 McGill Street,
P.O. Box 893.

MONTREAL

THE HAMILTON AND TORONTO SEWER PIPE CO. (LIMITED.)



HEAD OFFICE AND FACTORY: HAMILTON, CANADA

— FOR —
**SEWERS,
CULVERTS
AND
WATER PIPES.
INVERTS
For Brick Sewers**

Write for Discounts

THE STANDARD DRAIN PIPE CO. OF ST. JOHNS, P. Q. (LIMITED)



AND ALL KINDS OF FIRE CLAY GOODS

Manufacturers of
Salt-Glazed
Vitrified
**SEWER
PIPES**

Double Strength
Railway Culvert Pipes,
Inverts, Vents,

When corresponding with Advertisers of THE CONTRACT RECORD, kindly mention where you saw their advertisement.

For Artificial Stone Pavements, Roofing Gravel, Concrete, Etc.

USE "CRUSHED QUARTZITE"

LAURENTIAN SAND & GRAVEL CO.

Telephone 2491.

MONTREAL

13 St. John Street.

Write for Prices delivered in your town.

CANADIAN CONTRACTORS' HAND-BOOK

(SECOND EDITION)

Contains 150 pages of the most valuable information, substantially bound in cloth. Price, \$1.50; to subscribers of the "Canadian Architect and Builder," \$1.00.

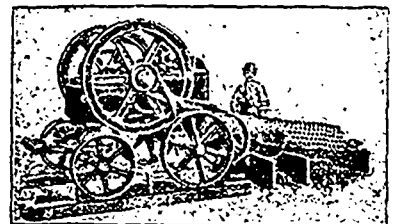
The C. H. Mortimer Publishing Co. of Toronto, Limited,

Confederation Life Building, TORONTO.

Branch Office: New York Life Building, Montreal.

THE JENCKES MACHINE CO.

31 Lansdowne Street - SHERBROOKE, QUE.



Builders of
STONE AND ORE CRUSHERS
and Macadamizing Machinery.
Complete Plants Planned and Erected.

Write us for Catalogue of Crushing Machinery, and Prices, stating requirements.

**MUNICIPAL
DEPARTMENT**

**NEW ENGLAND WATER WORKS
ASSOCIATION.**

The monthly meeting of the New England Water Works Association will be held at headquarters, Tremont Temple, Boston, on Wednesday, January 11, 1899. The following papers will be presented: "Cast iron pipes used in the Metropolitan water works," by Dexter Brackett, C. E., engineer of the distribution department of the Metropolitan water board; "Description of the new steel force-main of the New Bedford water works," by George S. Rice, C. E., Boston, Mass.; "Steel pipes," by L. M. Hastings, C. E., city engineer, Cambridge, Mass.; "Description of the new salt water fire system of Boston, Mass.," by Frank A. McInnes, C. E., assistant engineer of the engineering department, Boston; "Wooden stave-pipe," by Arthur L. Adams, C. E., Los Angeles, California; "Short description of the wooden stave-pipe at Manchester, N H.," by Chas. K. Walker, superintendent; "Improved Wyckoff water pipes," by Geo. L. Wells, C. E., Yazoo City, Miss.; "A compilation of recent data relating to the flow of water in pipes of wooden stave, steel riveted, and cast iron," by F. F. Forbes, C. E., superintendent, Brookline, Mass.

**SEWAGE DISPOSAL BY BACTERIA
BEDS AND THE SEPTIC TANK.**

The interest in bacterial or biological methods of sewage disposal seems to be increasing, if anything. Great Britain, and it is noteworthy that Mr. Baldwin Latham and other engineers, who were somewhat skeptical concerning these methods of treatment when they were first talked about three or four years ago, are now convinced of their importance. Among recent valuable contributions to the literature of the subject is a lecture delivered before the Society of Engineers by Mr. George Thudichum on the design of such plants as employ coarse bacteria beds, like those at Sutton, or a septic tank, like that introduced at Exeter.

In preparing plans for such works there are three governing conditions, the available fall, the nature of the soil, and the possibility of the sewage containing substances injurious to bacteria. Of these, he states that the first two determine which system should be adopted, for if the sewage is delivered at an elevation of less than 4 feet above the point at which it must be discharged, the septic tank possesses an advantage, because no head is lost in the tank and the whole fall can be utilized for the final filtration. If the sewage must be pumped in any case, or is delivered by gravity at a sufficient height to allow the two filtrations of the Sutton system, the adoption of one or the other system is to be decided upon other

considerations. The extent of the beds for the final filtration will be the same in either case, and the difference in first cost will be the difference between the expense of a coarse-grain bacteria bed and that of a septic tank. "Where the soil is light and porous, so that all tanks and beds must be built of brickwork on concrete bottoms, it is possible that such a difference may be extremely small, since the extra cost of covering the septic tank will be compensated by its being of smaller cubic contents than bacteria beds to do the same work, and by its requiring no bed material. Where, however, the nature of the soil is such as to permit of the construction of bacteria beds in the open ground, merely puddling the bottom and sides, the advantage from a pecuniary point of view is entirely with the system adopted at Sutton. On suitable land, such as the heavy clay at Sutton itself, bacteria beds can be made by merely excavating and burning the soil, laying drains on the bottom and returning the burnt ballast; and this has actually been done at a cost, for a bed 3 feet in depth, of 8 cents per square foot or about \$3,530 per acre. In places where the bacteria beds must be erected above the ground level, but where clay is readily obtainable, such beds can be prepared at a relatively small cost; and in these instances, also, the first installation will cost less on the Sutton than on the septic system."

With regard to the third consideration, that of the sewage possibly containing matter injurious to the life of microbes, Mr. Thudichum has found, as a matter of experience, that the majority of manufacturing effluents, especially if diluted with a reasonable proportion of ordinary domestic sewage, will yield to the influence of either aerobic or anaerobic organisms. This was shown by experiments with sewage from Leeds containing effluents from tanneries, galvanizing and copper works, and the solid matter from shoddy; in the case of Maidstone, waste liquids from tanneries and breweries; at West Bromwich, pickle liquor from galvanizing works; at Yeovil, the effluent from the yards of fellmongers and leather dressers; and in various instances in which the sewage to be treated was highly charged with refuse from gas works, margarine factories, dairies and distilleries. "Taken as a whole, the experience of the last two years goes to

prove that in the large majority of cases the manufacturing refuse which may be present in the sewage does not prevent the application of the principles of biological treatment throughout, while in cases in which preliminary precipitation or other treatment is necessary the final purification can be best effected by means of the fine bacteria bed."

As an example of the truth of these statements, the case of the Worcester Park outfall works is cited. The successful working of the sewage farms is rendered practically impossible by the nature of the ground, which is a heavy clay, water-logged in wet seasons, and full of cracks when dry, which allows the sewage to pass directly into the underdrains without being purified. A part of the sewage containing considerable quantities of brewery refuse is delivered by gravity near the highest part of the farm. While coarse and fine bacteria beds were under construction, an instructive expedient was adopted as a means of treating the sewerage which was the only portion of the total 960,000 gallons received at the farm that had caused annoyance. The author's account of this temporary system of treatment reads as follows:

"A plot of land of about 1 acre in area having been selected, the main effluent drain was locked, and the sewage (which in order to reach the highest portion had to be backed up in the outfall sewer) was allowed to flow onto the land until no more could be received; in fact, the whole plot was considered and treated as a Sutton bacteria bed. This operation occupied about three days. At the expiration of this period the damming of the outfall sewer was stopped, and the sewage allowed to flow freely for a short time into precipitation tanks, in order to remove any accumulation of sludge from the sewer; the backing up was repeated, and the sewage diverted on to a second plot treated in a similar manner to the first. The valve locking the latter was opened and the water gradually discharged from the plot. The work was continued in this way, using the plots alternately, and the result was a remarkable improvement in the quality of the effluent. That which before was black and stinking was clear and had only a slight sewage odor, analysis bearing out the conclusions arrived at from inspection by sight and smell. Such an operation must, of course, not be looked upon as a typical bacterial treatment. The time occupied in filling the bed, and consequently the period during which the organisms are submerged, is far too long, while the bed material is so fine that the re-entry of air is necessarily imperfect, and choking of the surface by the suspended matter in the raw sewage would take place probably at an early date."

(To be Continued.)

Portland Cements...

HIGH GRADE GERMAN BRANDS FOR GRANOLITHIC AND ARTIFICIAL STONE SIDEWALKS.

Sewer Pipes, Best English Cements. Best Belgian Cements. Culvert Pipes, &c. W. McNALLY & CO., Montreal.

BELLHOUSE, DILLON & CO., 30 St. Francois Xavier St., Montreal
Sole Agents for the Compagnie Generale des Asphaltes de France (Rock Asphalt).

PORTLAND CEMENT NORTH'S CONDOR

Paving and Fire Brick a Specialty

SITTING LION and WHITE CROSS Brand.

NORTH'S "CONDOR" BRAND AWARDED FIRST PRIZE AND GOLD MEDAL AT THE ANTWERP EXHIBITION

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

Prices of Building Materials.

LUMBER.

YARD QUOTATIONS.

	Toronto.	Montreal.
	\$	\$
Mill cullboards and scantling 9 00	10 00	12 00
Shipping cull boards, pro-		
miscuous widths.....12 00	13 00	13 00
Shipping cull boards, stocks 15 00	16 00	16 00
Hemlock scantling and joist		
up to 16 ft.....10 00	12 00	10 00
Hemlock scantling and joist		
up to 18 ft.....11 00	12 00	13 00
Hemlock scantling and joist		
up to 20 ft.....12 00	13 00	14 00
Cedar for paving, per cord....	5 00	5 00
Cedar for kerbing, 4 x 14,		
per M.....14 00	14 00	
Scantling and joist, up to 16 ft	14 00	14 00
" " " 18 ft	15 00	16 00
" " " 20 ft	16 00	16 00
Scantling and joist, up to 22 ft	17 00	17 00
" " " 24 ft	19 00	19 00
" " " 26 ft	20 00	21 00
" " " 28 ft	22 00	23 00
" " " 30 ft	24 00	25 00
" " " 32 ft	27 00	27 00
" " " 34 ft	29 50	29 50
" " " 36 ft	31 00	31 00
" " " 38 ft	33 00	33 00
" " " 44 ft	34 00	36 00
Cutting up planks, 1 1/2 and		
thicker, dry.....25 00	28 00	30 00

B. M.

1 1/4 in. flooring, dressed, F. M.	34 00	36 00	38 00	31 00
1 1/2 inch flooring, rough, B. M.	18 00	22 00	18 00	22 00
1 1/4 " " dressed, F. M.	25 00	28 00	27 00	30 00
1 1/4 " " undressed, B. M.	18 00	19 00	18 00	19 00
1 " " dressed.....18 00	20 00	18 00	22 00	
1 " " undressed.....12 00	15 00	12 00	15 00	
Beaded sheeting, dressed.....20 00	35 00	22 00	25 00	
Clapboarding, dressed.....14 00	14 00	8 00	12 00	
XXX sawn shingles, per M				
16 in.....2 40	2 35		3 00	
XX sawn shingles.....1 60	1 50			
Sawn lath, No. 1.....1 75	2 00	2 50	2 60	
Cedar.....2 90		2 90		
Red oak.....30 00	40 00	30 00	40 00	
White.....37 00	45 00	35 00	55 00	
Basswood, No. 1 and 2.....28 00	30 00	18 00	20 00	
Cherry, No. 1 and 2.....70 00	90 00	70 00	80 00	
White ash, No. 1 and 2.....24 00	35 00	30 00	35 00	
Black Ash, No. 1 and 2.....20 00	30 00	18 00	30 00	
Dressing stocks.....16 00	22 00	16 00	22 00	
Picks, American Inspection..	30 00		40 00	
Three uppers, Am. Inspection	50 00		50 00	

(Continued on Page 8.)

Paving Granite

Granite Sets for Street Paving. — CURBING cut to any shape ordered. — Fine Rich Colors for Building and Monumental Purposes.

Quarries, St. Philippe d'Argenteuil, P. Q.

Address all communications to

JOS. BRUNET - COTE DES NEIGES, MONTREAL

Notice to Contractors

WE can save you money on.....

Granolithic or Crushed Stone

of any size, as we have the most complete plant in Canada. You will consult your own interests by getting our prices. We also make a specialty of Slate, Tile, Granite and all kinds of Stone. Crusher at Jarvis street wharf.

THE POWELL GRANITE & MARBLE CO'Y,
Phone 3440. Office, 482-484 Yonge St., Toronto

Please mention the CONTRACT RECORD when corresponding with advertisers.

S. LAWRENCE FOUNDRY CO.
OF TORONTO, LIMITED.
Est. 1852

ARCHITECTURAL IRON & STEEL WORKS
ROOFING, DOORS, AND FRONT STAIRS, ALZALIMTS.
FORGINGS & CASTINGS
CAST-IRON GAS, WATER & SEWER PIPES.
PIPE SPIKES & BOLTS.
PATTERNS & MODELS.

OF EVERY DESCRIPTION FOR BUILDERS, MACHINISTS & RAILWAYS. HEAVY CASTINGS A SPECIALTY.

262 TO 268 FRONT ST. EAST. TORONTO.

WATER CRANES
INDICATOR VALVE POST
FOOT AND CHECK VALVES
INDICATOR AND GATE VALVES
2-3 & 4 WAY HYDRANTS

MONTREAL PIPE FOUNDRY CO., Limited

Successors to
DRUMMOND McCALL PIPE FOUNDRY CO., LTD.
Manufacturers of

CAST IRON WATER and GAS PIPES

and General Water and Gas Special Castings.

Prices on Application.

Offices, Canada Life Building, MONTREAL.

To Municipal Authorities, Engineers and Others

Owing to the excellent reputation which our "STAR" brand of Portland Cement has acquired, and which trade mark is protected by government registration, at Ottawa, foreign manufacturers have been sending cements into Canada under the name of "Star," which we believe to be inferior in quality, weight per barrel, etc., to our goods; hence, to ensure the use of the genuine article, we respectfully suggest that in framing specifications you be careful to see that RATHBUN'S "STAR" BRAND is specified and used. We guarantee it.

THE RATHBUN COMPANY - DESERONTO, ONT.

EVERY ENGINEER AND CONTRACTOR

Should possess a copy of the Second Edition of the Canadian Contractors' Hand-Book, a compendium of useful information for persons engaged on works of construction, containing upwards of 150 pages. Price \$1.50; to subscribers of the CANADIAN ARCHITECT AND BUILDER, \$1.00.

C. H. MORTIMER PUBLISHING COMPANY
OF TORONTO, LIMITED, Publishers,

Branch Office: New York Life Building, MONTREAL.

Confederation Life Building, TORONTO.

ALEX. GARTSHORE, President. J. G. ALLAN, Secretary and Treasurer. JAS. THOMSON, Vice-President and General Manager.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED.

Manufacturers of:::

Flexible and Flange Pipe,
Special Castings and all kinds of
Waterworks Supplies.



3 inches to 60 inches diameter.

For Water, Gas, Culvert and Sewer

HAMILTON ONT.

Pices of Building Materials.

INDEX TO ADVERTISEMENTS
In the "Canadian Architect and Builder."

(Continued.)

Trento. Montreal.

BRICK—M

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Common Walling, Good Facing, Sewer.

PRESSED BRICK, PER M.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Red No. 1 Gob Milton, Duff No. 2 Gob Milton, etc.

F. O. B. DEW VALLEY.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Red A, Red B, Red C, etc.

F. O. B. DEWVILLE.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Perles Facing, Red No. 1, etc.

SAND.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Per Load of 1/4 Cubic Yards.

STONE.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Common Rubble, Large flat Rubble, etc.

OHIO FREESTONE.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes No. 1 Buff Prom'uous, No. 2 Buff Dimension, etc.

CREDIT VALLEY STONE.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Rubble per car or 100 tons at quarry, Brown Dimension, etc.

LONGFORD STONE.

Table with 4 columns: Description, Price per 1000, Price per 1000, Price per 1000. Includes Rubble per 30M car, Ashlar, etc.

Large index table listing various building materials and services such as Architects, Creosote Stains, Luster Prisms, Roofers, etc., with corresponding page numbers.

For ornamental work, cu. ft. 40

Table listing prices for granite paving blocks, granite curbings, and slate roofing.

SLATE.

Table listing prices for roofing slate in various colors and sizes.

PAINTS. (In oil, 1/2 lb)

Table listing prices for various types of paint including white lead, red lead, yellow ochre, etc.

CEMENT, LIME, etc.

Table listing prices for Portland Cement, Hydraulic Cements, and other building materials.

Toronto. Montreal.

Table listing prices for various types of bricks and plaster.

HARDWARE.

Table listing prices for cut nails, fence and cut spikes, and iron pipes.

Lead Pipe:

Table listing prices for lead pipe and waste pipe.

Galvanized Iron:

Table listing prices for galvanized iron pipes and sheets.

Structural Iron:

Table listing prices for structural iron beams, channels, and plates.