

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: Some pages are cut off.

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

Captior. 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 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. 10.

MARCH 1, 1899

No. 5.

## 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

C. 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.

Whole or separate tenders will be received by the undersigned up to and including noon, MARCH 1st, for the erection and completion of a church for the Melville Presbyterian congregation at Fergus.

The lowest or any tender not necessarily accepted. Plans and specifications may be seen at the office of Powell & Wideman, Guelph.

H. J. POWELL, Architect,  
Stratford, Ont.

## TO CIVIL ENGINEERS

Tenders will be received up to MARCH 10th NEXT for the following work:

- 1st. Examine and Prepare Working Plans, Specifications and Estimates for the proposed Water-Works in the Village of Stirling.
- 2nd. For Superintending the work during Construction.

JOHN S. BLACK, Village Clerk,  
Stirling, Ont.

Feb. 25, 1899.

## TO CONTRACTORS

Tenders will be received by the undersigned up to 12 O'CLOCK, NOON, SATURDAY, MARCH 4th, for the several grades required in the Removing of Old Buildings and the erection and completion of a

### LARGE OFFICE BUILDING

King Street, Toronto, for the National Trust Company of Ontario, Limited.

Plans and specifications may be seen and all other information obtained at the office of the Architect.

GEO. W. GOVINLOCK, Architect,  
714 Temple Building.

The lowest or any tender not necessarily accepted.

## TO CONTRACTORS

Tenders will be received by the undersigned up to MONDAY, 20th MARCH NEXT, for the erection of a

### Brick School House

AT UPTERGROVE.

Plans and specifications can be seen at the offices of the architects, Thos. Kennedy & Co, Barrie, and at the office of F. J. Gillespie, Uptergrove. Lowest or any tender not necessarily accepted.

PETER THOMSON, Secretary,  
Uptergrove.

## TENDERS

Tenders will be received up to 5 p.m. on TUESDAY, MARCH 7th, for the Plastering, Painting, Iron and Roofing, Plumbing and Heating, in connection with the erection of

### THREE DETACHED RESIDENCES

on Madison Avenue. Plans and specifications may be obtained at the office of the undersigned.

F. H. HERBERT, Architect,  
9 Toronto Street.

## Tenders for Supplies

Tenders, addressed to the undersigned, in care of the City Clerk, Brantford, and marked "Tenders for Supplies," will be received up to 12 o'clock, noon, on MONDAY, MARCH 20th, 1899, for the supply of the following materials required by the Board of Works Department of the City of Brantford.

- |                 |                |
|-----------------|----------------|
| 1. LUMBER.      | 4. SPIKES.     |
| 2. CEDAR POSTS. | 5. SEWER PIPE. |
| 3. OAK PLANK.   | 6. CEMENT.     |

according to specifications to be obtained on application to the City Clerk, Brantford.

Parties tendering for spikes are asked to give a separate price for spikes manufactured in Brantford. The lowest or any tender not necessarily accepted.

W. G. ELLIOTT,  
Chairman Board of Works,  
Brantford, February 25th, 1899.

## TENDERS FOR

## Waterworks Supplies

Sealed Tenders, addressed to the Chairman of the Fire, Water and Light Committee, will be received at the office of the undersigned up to 6.30 p.m. on

Monday, April 3rd, 1899,

for the supply of the following materials:

- |                                  |
|----------------------------------|
| 100 tons Pig Lead.               |
| 75 tons Lead Pipe.               |
| 2000 Corporation Cocks.          |
| 2000 Sidewalk Cocks.             |
| 2000 House Stop and Waste Cocks. |
| 2000 3/4 in. Meters.             |
| 100 " " "                        |
| 100 " " "                        |
| 10 " " "                         |

Specifications and forms of tender may be obtained at the office of H. N. Ruttan, City Engineer, Winnipeg. Each tender must be accompanied by an accepted cheque or cash deposit for the sum called for in the form of tender supplied, which will be subject to forfeiture in case of failure on the part of the Contractor to enter into a written contract if called upon to do so. If an accepted cheque is submitted it must be payable at par in Winnipeg or be for an amount sufficient to cover exchange over the sum called for in the form of tender supplied.

No tender necessarily accepted.

C. J. BROWN,  
City Clerk.  
City Clerk's office, Winnipeg Man., Feb. 25, 1899.

## CONTRACTS OPEN.

MOULTON, ONT.—J. Kirk is preparing to erect a brick residence.

CASCADE CITY, B.C.—A new Presbyterian church is to be built here.

WELLANDPORT, ONT.—Absalom Angle will erect a residence, to cost \$2,000.

HINTONBURG, ONT.—C. Burnside will erect a residence on the Richmond road.

WALLACEBURG, ONT.—The council contemplates the purchase of 300 feet of fire hose.

GOWANSTOWN, ONT.—It is the intention of B. Greer to erect a residence next summer.

BRIGHT, ONT. The Blandford township council is considering the purchase of a road roller.

FERNIE, B. C.—William Eschwig, of Wardner, is about to erect a large block on Victoria avenue.

ST. THOMAS, ONT.—The county council will shortly invite tenders for furnishing the court house.

PORT COLBORNE, ONT.—Tenders are now being taken on a residence to be built by F. K. Brown

WOODSTOCK, ONT.—The C.P.R. will shortly commence work on the new station to be built here.

ROCKLAND, ONT.—Plans have been prepared for a new R.C. church to replace the one destroyed by fire.

PORT ROBINSON, ONT.—It is expected that a modern hotel will be built on the site of the Bennett House.

BALDERSON, ONT.—The Presbyterian congregation will build a church in the near future, to cost \$3,000.

ST. JACOB'S, ONT.—Moses G. Bowman intends building a cider mill and apple evaporating establishment.

MILVERTON, ONT.—Geo. Langford has purchased property on Mill street, on which he will build a residence.

PARRY SOUND, ONT.—It is reported that the Ontario government intends building a jail here this summer.

BLOOMSFIELD, ONT.—The farmers of West Lake have formed a stock company, and will erect a canning factory.

TARA, ONT.—L. D. Tobey, clerk, invites proposals up to March 6th for the purchase of \$4,000 of debentures.

ESSEX, ONT.—Charles Hannan, of this place, is looking for a location for a factory to manufacture butter dishes.

BUCKINGHAM, QUE.—St. Stephen's vestry has decided to build a stone church. Plans will be selected at an early date.

HARROW, ONT.—On March 4th a vote of the ratepayers will be taken on a by-law to borrow \$800 to purchase a fire engine.

CHATHAM, ONT.—James L. Wilson & Sons, architects, are taking tenders this week on a frame residence on Joseph street.

LINDSAY, ONT.—The Board of Trade is taking steps to secure the erection of a bridge across the river at the foot of Kidout street.

CEDARVILLE, ONT.—Tenders are wanted by 4th inst. for the erection of a Presbyterian church. Plans at residence of Samuel Rogers.

VALLEYFIELD, QUE.—A deputation from this place has requested the officials of the Canada Atlantic Railway to build a new station here.

ST. HYACINTHE, QUE.—It has been decided to build an annex to the Hotel Dieu Hospital, to accommodate 100 additional patients.

ARNPRIOR, ONT.—The curling club

purposes building a curling and skating rink, at a cost of \$2,600. Site has already been chosen.

**LION'S HEAD, ONT.**—A joint stock company will be formed to build a grist mill. J. H. Cook and A. B. Agar are provisional directors.

**THESSALON, ONT.**—The ratepayers will vote on a by-law to raise \$13,000 by the issue of debentures for the purchase of the waterworks system.

**PEVENSFV, ONT.**—John A. Hannaford wants tenders by March 6th for building a new school house and for enlarging and repairing another building.

**MIDDLEVILLE, ONT.**—Tenders are invited by Andrew Baird up to March 4th for the erection of a brick veneered town hall in the township of Lanark.

**EDMONTON, N.W.T.**—The Board of Trade has appointed a committee to memorialize the government to at once complete the bridge across the river.

**GUELPH, ONT.**—The Board of Trade has passed a resolution calling upon the Canadian Pacific Railway Company to extend its line from this city to Goderich.

**FENELON FALLS, ONT.**—The trustees of Red Rock school, Verulam, wants tenders for the erection of a new building. Plans at McGee's hardware store at this place.

**PORT DALHOUSIE, ONT.**—It is believed that the Toronto Rubber Company have decided to rebuild their factory at this place, and that work will be commenced at once.

**PAPINEAUVILLE, QUE.**—The parishoners are discussing a proposition to erect a new church. Vicar General Routhier was here recently in connection with the project.

**ELMWOOD, ONT.**—Petitions have been presented to the Brant township council asking for the construction of two bridges over the Saugeen river. The cost is estimated at \$8,000.

**DUNDAS, ONT.**—The congregations of Freeelon and Brock Road churches are said to be considering the rebuilding of their edifices. Rev. Andrew Hamilton, of this place, is pastor.

**GODERICH, ONT.**—It is expected that the bill authorizing the town to issue debentures for \$25,000 to complete the waterworks and electric light plant will be passed by the legislature.

**BEAR RIVER, N.S.**—The Bear River Electric Light Company will hold a meeting to-morrow (Thursday), to consider the extension of its system to Digby and the purchase of new machinery.

**PETERBORO', ONT.**—The town council has agreed to grant \$200 a year for twenty years towards the rebuilding of the Mud Lake bridge. The county council estimates the cost of a new bridge at \$10,000.

**KENTVILLE, N.S.**—The town has under consideration a thorough system of sewerage, and we understand that Mr. Foss, C.E., of Bridgewater, will make a survey of the town for this purpose at an early date.

**WINDSOR, N.S.**—Thos. Aylward invites tenders up to Wednesday, March 22nd, for furnishing materials and building a Methodist church on King street, from plans prepared by Elliott & Hopson, architects, Halifax.

**UPPERGROVE, ONT.**—Peter Thompson, secretary School Board, desires tenders by Monday, March 20th, for the erection of a brick school house. Plans at office of Thos. Kennedy & Co., Barrie, and F. Gillespie, this place.

**LONDON, ONT.**—During the current year a number of permanent street improvements will likely be carried out. It is also probable that some action will be taken looking to the disposal of the sewage of the city.

**ST. JOHN, N.B.**—G. E. Fairweather, architect, is preparing plans for a club house near Riverside to be built by the Kennebecas s Chalet Co.—The Board of Works will purchase a steam drill and probably a stone crusher.

**MOUNT FOREST, ONT.**—John McNabb, of this place, wants tenders by Saturday next for the erection of a brick residence.—Thomas Reidy, sr., desires tenders by same date for the erection of a brick dwelling in Arthur township.

**ATHENS, ONT.**—A new stone church will be built by the Methodist congregation, tenders for which will be received by A. W. Blanchard, of this place, up to March 15th. The plans were prepared by B. Dutton, architect, of Brockville.

**ASHBURNHAM, ONT.**—The village clerk has been instructed to procure tenders for a street sprinkler and wagon.—The Peterboro' Light & Power Company has submitted a proposition to the council to light this village by electricity.

**LIVERPOOL, N.S.**—The Water and Light Committee of the town council is now calling for tenders for 400 tons of cast iron water pipes for the proposed water works. It will shortly be asking for proposals to install an electric light plant.

**MADOC, ONT.** The village has asked permission from the Ontario legislature to issue debentures for \$14,000. Of this sum \$3,000 is wanted for a new steam fire engine. The township of Madoc also wants permission to issue debentures for \$32,000.

**PICTON, ONT.**—The municipal council has engaged Mr. Roderick J. Parke, consultant, electrical engineer, of Toronto, to prepare estimates, plans and specifications for extensions and improvements to the municipal incandescent lighting plant for this town.

**SMITH'S FALLS, ONT.**—The Board of Education has purchased a site on which to erect a new High school, to cost about \$20,000.—Building operations here promise to be brisk in the spring. It is expected that buildings to the value of \$150,000 will be erected.

**ALMONTE, ONT.**—Steps will be taken to form a company to build a skating and curling rink.—James Storey has leased property on which he will build a cheese factory.—T. R. White, whose building was destroyed by fire, will erect a new brick structure in the spring.

**ANNAPOLIS, N.S.**—Steps will be taken at once to build a new county academy at this place.—F. S. Judd, of Boston, has been engaged by the Nova Scotia Pork Packing Company, of Middleton, to furnish plans and superintend the construction of the necessary buildings.

**HULL, QUE.**—The Taylor Air Compressing Company has submitted to the council plans for operating the electric light and waterworks system by compressed air instead of steam. They offer to place new engines at the waterworks and build the necessary apparatus for \$39,600.

**BELLEVILLE, ONT.**—At a meeting of the shareholders of the Abbott-Mitchell Rolling Mills Company, held last week, it was stated that the plans for the buildings had been completed, and that tenders would be called for in a few days. Mr. William Abbott is secretary of the company.

**LISTOWEL, ONT.**—W. E. Benning, architect, is preparing plans for the following buildings: Presbyterian manse at Monkton, red brick, with concrete foundation, furnace, improved plumbing and acetylene gas fittings, contract awarded March 9th; Methodist parsonage at Milverton, brick, plumbing and hot air heating; residence for J. P. Newman, of Wiarton, red brick, improved plumbing, hot air heating, mantels,

grates, etc.—A company of local capitalists is being formed to build a furniture factory.

**VANCOUVER, B.C.**—It is reported that Theodore Ludgate, of Peterboro, has secured from the Federal government part of the Stanley Park Naval Reserve, and that he will build thereon a large saw mill.—The British Columbia Electric Railway Company has purchased property on which to build a new power house and car barns.

**RENFREW, ONT.**—A deputation from this vicinity has asked the Ontario government for a grant of \$5,000 for an interprovincial steel bridge across the Ottawa river at Portage du Fort. The Province has promised to give \$5,000 on condition that Quebec province gives a like amount and the Dominion government \$10,000.

**HAMILTON, ONT.**—At a meeting of the members of the Central Presbyterian church, held last week, a committee was appointed to carry out the proposed improvements to the church building, which are to cost \$8,000. William Hendrie and J. J. Evel are members of the committee.—William & Walter Stewart, architects, are preparing plans for the necessary buildings in connection with the proposed stockyards.

**STRATFORD, ONT.**—R. B. Barber, architect, is preparing plans for a residence for Donald Murray, of Maplewood, to be of red pressed brick, with Ohio freestone arches, sills and caps, two storeys high, 45x40 feet, slate roof, oak finish, etc.—Thomas Hepburn, architect, is preparing plans for alterations to the old Stratford hotel, which has been leased by J. P. McGill for the purpose of establishing a plant for desiccating eggs.

**BROCKVILLE, ONT.**—The insurance on St. John's church has been satisfactorily adjusted, and the chances are that the structure will be rebuilt in the spring.—Thos. Tompkins has had plans prepared by G. R. Oldershaw, architect, of Vancouver, B.C., for a large hotel which he purposes erecting at the corner of King and Home streets. The building will be one of the finest yet built in this city, and will likely be furnished with an electric light plant.—The town council has under consideration the installation of a municipal electric light plant, and will engage an engineer to report on the cost of same.

**NIAGARA FALLS, ONT.**—Plans are being prepared for the rebuilding of the Howard block, work on which will be commenced about April 1st.—The Grand Trunk Railway Company are preparing to improve their yards here. The company will also build new custom houses.—The chairman of the Roads and Bridges Committee has been instructed to get tenders for the supply of 20-inch sewer pipe. The Mayor has advised the Finance Committee to consider the advisability of issuing debentures for the West Main street sewer and granolithic walks.

**WINNIPEG, MAN.**—The city council has decided to again submit to the ratepayers a by-law to authorize the establishment of a civic electric light plant.—The following have made arrangements to erect new buildings this year: Manitoba Trust Co., corner Main and Notre Dame street east; Dominion Bank, corner of Main street and McDermott avenue; James Scott, corner of Main street and Portage avenue east; R. J. Whittle & Co., wholesale warehouse, McDermott avenue; the Bole Drug Co., wholesale warehouse; Bulman Bros., Bannatyne street, west of Main street; Rat Portage Lumber Co., large saw mills, Point Douglas; John Baird, addition to the Seymour hotel, Market street; Paulin & Co., new biscuit factory; Canada Bank of Commerce, Main street; Merrick & Anderson, wholesale warehouse; the

Clare Manufacturing Co., wholesale warehouse.—The city engineer is completing arrangements for the construction of the proposed waterworks system.—Mr. White, of the C.P.R., who recently returned from Montreal, states that engineers will shortly be sent out to estimate the cost of double tracking the railway between this city and Fort William. A number of wooden bridges will also be replaced by steel structures.—President Melten, of the Northern Pacific Railway, visited this city last week to confer with the Board of Trade regarding the rebuilding of the Manitoba hotel.

OWEN SOUND, ONT.—The application of the Owen Sound Portland Cement Company to increase its capital stock from \$100,000 to \$200,000 is now before the Ontario legislature. With the increased capital it is contemplated to double the capacity of the works.—The R. J. Doyle Manufacturing Company will erect, during the coming summer, an addition to their buildings at Shallow Lake.

It is probable that the Eaton Bros. Brewing Company will erect a new building, and make other improvements to their plant.—The Owen Sound Saw and Planing Mills will add new machinery.—Messrs. Hay, of the North American Bent Chair Co., purpose erecting a main building 500 x 45 feet, three storey high, with wings 144 x 45 feet, and a large one-storey bending room, all of brick.

MONTREAL, QUE.—At a meeting of the parishoners of St. James parish on St. Denis street, R. Bellemare, F. N. St. Charles, and others, were appointed a committee to devise means of carrying out the required improvements to the church.—Saxe & Archbald, architects, Imperial building, have prepared plans for a large apartment house to be erected by M. S. Foley at the corner of St. Catherine and Metcalfe streets. A wide passage finished in marble will extend from St. Catherine street to Dominion square. Eight stores will occupy the ground floor. The building will be of brick and stone and steel frame construction.—James Smith, architect, has prepared plans for a red sandstone building to be erected by Mrs. A. Mackay, at the corner of Sherbrooke and Durocher streets. Operations will be commenced almost immediately.—The Harbour Commissioners want tenders by the 7th inst. for the supply of castings, iron spikes, bolts, oils, paints, and other stores.—Mr. Jannin, acting superintendent of waterworks, has reported regarding the utilization of electric power at the high level pumping station. He states that a scheme could be evolved for altering the motor from steam to electricity, and will make a further report on the matter.—Plans have been completed by the Road Department for a subway under the C. P. R. tracks at the head of St. Denis street. If carried out the work will cost \$60,000.—A large insurance company is said to have in view the erection of an up-to-date building on the Barron Block property, adjoining the London and Lancashire building. Mr. H. L. Putman, real estate agent, is negotiating the deal.

OTTAWA, ONT.—The Mica Manufacturing Company intend enlarging their factory on Sussex street.—The West End Methodist Church authorities contemplate the purchase of a lot adjoining their present property, with a view to enlarging their church.—The Gall Schneider Oil Company, represented in this city by T. K. Foster, intend erecting large works here, including the construction of oil tanks.—The plans for the bridge over the canal at Maria street have been approved by the Minister of Public Works, and tenders are about to be called.—It is said that J. R. Booth has decided upon the erection of two large car shops in addition to those now in course of construction. The buildings will be 300 x 150 feet, and the machinery will be operated by elec-

tricity. The fan system of heating will be used.—The Ottawa Electric Company have just commenced a large addition to their power house, which will necessitate the removal of about 5,000 cubic yards of rock. A new flume 20 feet wide will also be built.—The city council has granted the request of the Central Canada Fair Association for a grant of \$30,000 for erecting new buildings.—The Separate School trustees have decided upon building a three storey brick school, containing twelve class rooms. It will be 72 x 52 feet, fitted with modern conveniences, including fire escapes. Plans will be completed this week.—P. Hogan, of the Ottawa Electric Railway Company, is about to build a residence on McLaren street. The City Engineer will shortly report to the Board of Works whether a subway or overhead bridge is preferable at the Parry Sound crossing on Bank street. The Waterworks Committee has prepared its estimates for the year. Maintenance and repairs represent an expenditure of \$35,113, made up as follows. Pump house supplies and machinery, \$4,000; street service pipe charges, \$10,000; pipe castings and extensions, \$12,000; contingencies, \$9,113. G. M. Bayly, architect, wants tenders by 4th instant for the erection of a residence on James street for George Potham.—A meeting of scientists was held here last week to consider the question of establishing a marine biological station. Parliament has already voted \$7,000 for the purpose.—Tenders are wanted by the city clerk by March 2nd for alterations to the city hall. Plans at office of M. C. Edey, architect.—Fourteen tenders have been received by the Metropolitan Electric Company for the crib work of their proposed works at Britannia. A report on same will be made by the company's engineer, Jno. Ayles.—James Gibson intends erecting a dwelling house on Daly avenue, plans for which have been prepared by E. L. Horwood, architect.—Kenneth McDonald purposes erecting an agricultural building, brick and three storeys.

TORONTO, ONT.—An amalgamation has been effected between the W. A. Johnson Electric Company and the Toronto Electric Motor Company, under the name of the United Electric Company. Mr. W. A. Johnson will be president. The new company is making arrangements to extend the manufacturing plant.—Mr. Alexander Manning is about to build a block of buildings at the corner of Queen and Terauley streets.—Mr. J. McMillan, steward of the jail, has asked the council for a new 70 h.p. boiler for heating the building.—Messrs Stapleton Caldecott, Robert Kilgour, J. J. Cassidy and others, waited upon a committee of the Ontario Cabinet recently in connection with the proposed Missanabie railway, which is to extend from Missanabie to Long Portage, on James Bay, a distance of 200 miles. The deputation asked for a grant of \$3,200 per mile.—The City Engineer has recommended construction of the following local improvements: Macadam roadways—McKenzie crescent, Dovercourt road to Beaconsfield avenue, cost \$2,531; Margueretta street, Dundas to Bloor streets, cost \$8,411. Brick pavement on concrete—Spadina avenue, from Adelaide to Queen, cost \$10,824; College street, from Spadina avenue to Bathurst street, cost \$22,434; Garden ave., Roncesvalles to Sorauren ave. Cedar block pavement—Nassau street, from Lippincott to Bathurst, cost \$531. Asphalt pavement—Front street, from York to Bay street. Cement concrete walks—St. George st., east side, College street to Hoskin ave., cost \$1,482; Church street, west side, Queen to Shuter, cost \$703.—In a supplementary report, the city engineer recommends the laying of new 12 inch water mains on the bed of the Don river at Queen street and Eastern avenue.

The cost is placed at \$2,062.—The question of a site for the new fire hall in the west end is under consideration by the Fire and Light Committee.—A building permit has been granted to John Macdonald for a rough-cast dwelling on Oak street, cost \$1,000.—The Grand Trunk Railway Company purpose laying a second track on the middle division between St. David's and Hamilton. It is also the intention to lay about 250 miles of new rails on the same division.—E. J. Lennox, architect, has prepared a report showing the approximate cost of completing the municipal building. The estimates are as follows. Permanent fittings—civic offices, \$23,133; court rooms, \$8,000; council apartments, \$2,968; mantels, \$4,800; blinds, \$2,500; fire hose, \$575; city treasurer's cash vault, \$2,000; iron gates for court yard entrance, \$400; metallic vault fittings, \$9,354; iron staircases in city clerk's vault, \$485; tower clock and clock system, \$10,000; water mains and pumps for proper fire protection of building, \$10,375; connecting ventilating flues, \$6,200; terrace to entrances, lamp posts, steps, and curbing, \$11,500; brick work and curbing, \$3,500; completion of third floor, \$12,490; completing and seating the assembly hall, \$17,780; carpets, \$5,000; police department, \$6,817. Portable fittings—civic offices, \$6,800; court rooms, \$2,500; judges' room, \$1,288; witness rooms, \$250; council apartments, \$5,025; committee rooms, \$700; fire hose, \$1,300; police department, \$3,233.—In this issue Mr. George W. Gounlock, architect, invites tenders for the erection of a building on King street for the National Trust Company of Ontario, to be five storeys, 64 x 135 feet, with brown stone front, mosaic floors, marble dadoes, electric elevators, etc., estimated cost, \$60,000.—The vestry of St. Clement's church, North Toronto, have adopted plans of a new Sunday school which it is proposed to erect, at a cost of \$1,800.—Mr. F. H. Herbert, architect, invites tenders in this issue for the erection of three detached residences on Madison avenue.—Extensive alterations will be made to Bingham's drug store, 100 Yonge street, by the Cawthra Estate. Mr. F. H. Herbert, architect, has charge of the work. Mr. Herbert is also preparing plans for two detached residences to be erected on the north side of Lowther avenue, cor. of Huron, to cost \$7,000 each, tenders for which will be asked shortly.

#### FIRES.

Seguin's Hotel at Fortune, Que.; loss \$3,000, insurance \$2,000.—William Law & Co.'s wharf property and freight sheds at Yarmouth, N. S.; loss, \$10,000, no insurance.—The Green block at Port Rowan Ont., owned by Mrs. S. P. Maybee.—Residences of E. Mason and Mr. Miners, at Tilsonburg Ont. Both houses were owned by Dr. Sinclair, and were uninsured.—The machine shops of the Dobbie & Stuart foundry, Thorold, Ont.; loss on buildings and machinery, \$10,000.—Presbyterian church at Minnedosa, Man., totally destroyed.—Flax mill at Harrison, Ont., operated by the Harrison Flax Mill Company.—Residence at Simcoe, Ont., owned by E. B. Varrey.

#### CONTRACTS AWARDED.

BROCKVILLE, ONT.—The town council has let the contract for constructing granolithic sidewalks to Booth & Dolan.

TORONTO, ONT.—Mr. F. H. Herbert, architect, has awarded contracts for the remodelling of store at 123 5 Yonge street for the Cawthra estate as follows. Brickwork, Ed. Gearing; carpenter work, R. G. Kirby; painting, F. E. Phillips; galvanized iron, A. B. Ormsby & Co.; roofing, Hutson & Son. Plumbing and heating not let.

# MUNICIPAL DEPARTMENT

## SILICA PORTLAND CEMENT.\*

BY M. J. BUTLER.

Silica Portland cement, as manufactured in Canada, is a mixture in equal parts by weight of a high grade Portland cement and clean dry silica sand, ground together to an extreme degree of fineness, in mills specially designed for the purpose.

The Portland cement used has the chemical composition and properties shown below.

### PORTLAND CEMENT. (Chemical Analysis.)

Lime.....	62.0
Silica.....	22.0
Alumina and iron.....	12.0
Magnesia, sulphuric acid, etc.....	4.0

### (Fineness.)

Residue on No. 100 sieve, 10,000 holes to the square inch.....	8%
Residue on No. 200 sieve, 40,000 holes to the square inch.....	35%

### (Tensile strength, lbs. per sq. in.)

Neat cement mortar—	
1 day in air, 6 in water.....	500
1 day in air, 27 in water.....	600
3 parts standard sand to 1 part cement—	
1 day in air, 27 days in water.....	200

(Soundness, absence of free lime unhydrated.)

Very great care is taken to ensure a Portland cement that is absolutely sound, i.e., free from unhydrated calcium oxide.

It consists of a horizontal steel cylinder 18 feet in length by 4 feet in diameter, lined with specially hard cast iron plates, which slowly wear away. The mill revolves at the rate of 27 revolutions per minute, and is filled half full with flint pebbles. The sand assists the pebbles in the grinding action, being itself, at the same time, reduced to a very fine state. The cement is reduced to an impalpable powder, and is thoroughly intermixed with the ground sand, in fact, each minute particle of silica is enveloped with a flour of cement. Silica Portland has all the good qualities usually found in the best Portland cement, and the question naturally arises, why is it? How is it possible

The resulting silica Portland cement has the chemical composition and properties shown below:

### SILICA PORTLAND CEMENT. (Chemical Analysis.)

Lime.....	31.0
Silica.....	61.0
Alumina and iron.....	6.0
Magnesia, sulphuric acid, etc.....	2.0

### (Fineness.)

Residue on No. 100 sieve, 10,000 holes to the square inch.....	Nil
Residue on No. 200 sieve, 40,000 holes to the square inch.....	7%

### (Tensile strength, lbs. per sq. in.)

Neat cement mortar—	
1 day in air, 6 in water.....	350
1 day in air, 27 in water.....	450
3 parts standard sand to 1 part cement—	
1 day in air, 27 in water.....	200

(Soundness; absence of free lime unhydrated.)

As silica in itself is wholly inert, the resulting mixture of sound Portland and pure silica must likewise yield a sound cement. The small percentage of lime is a further assurance against the possibility of a blowey cement.

the more nearly we approach the ultimate molecule, the more nearly we render it possible for the elements present in the cement to unite together and crystallize into the silicates which form cement.

A barrel of Portland cement, when ground to the finest degree commercially, practically has quite 50 per cent. of the material too coarse to admit of crystallization. The unground particles are for all practical purposes inert matter sand if you please; the active cementing material is the impalpable flour. Now, in the case of silica Portland, the whole of the cement is ground to this impalpable flour-like condition, and therefore in a position to do work, the silica is reduced to a minute degree of fineness also, but not to the same extent as the cement; each speck

(Continued on page 6)

Flush Your Sewers with

## THE MILLER AUTOMATIC SYPHON

(PATENTED)

Received HIGHEST AWARD at the World's Columbian Exposition for

- (1) SIMPLICITY OF CONSTRUCTION.
  - (2) EFFECTIVENESS. (3) RELIABILITY.
- Write for Prices and Particulars.

VICTOR HILL, 39 D'Arcy St. TORONTO.  
General Agent.

# WATER WORKS

Municipalities contemplating the installation of Water Works Plants will do well to communicate with us, as we can offer several Excellent Pumps in First-Class Condition, Low in Price, on Easy Terms, and Built for Water Works Service.

## The Northey Mfg. Co'y.

KING STREET  
SUBWAY,

TORONTO

Portland cement and clean dry sand are weighed into the tube mill in equal quantities by a continuous uniform feed adjusting device, and in order to make clear the process of grinding it will be necessary to give a brief description of the tube mill.

\* Paper read before the Engineering Society of the School of Practical Science, Toronto.

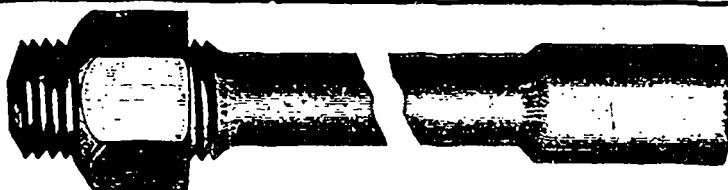
to add 50 per cent. of inert material to a barrel of cement, and by the mere act of grinding them together to secure practically the same cementitious value as before the addition? An effort will be made to explain the seeming anomaly. As compared with the fineness of the molecule, the finest ground particle is coarse, yet

# 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



To Contractors: We have special facilities for the manufacture of all classes of.....

### BRIDGE IRON

Including Rods, Bolts, Nuts, &c. Also Drift Bolts for Breakwaters.

PRICES ON APPLICATION SWANSEA FORGING COMPANY, SWANSEA (NEAR TORONTO)

## MUNICIPAL DEBENTURES BOUGHT

ÆMILIUS JARVIS & CO. (Toronto Stock Exchange) 23 King St. West, TORONTO

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 Barutic Stone Company of Ontario, Limited.

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

THE HERCULES CULVERT CO.

Manufacturers of

Portland Cement

Culvert Pipe

Culvert Arches

HOG-TROUGHS, 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

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

MOS. BRUNET - COTE DES NEIGES, MONTREAL

Please mention the CONTRACT RECORD when corresponding with advertisers.

WILLIS CHIPMAN

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

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

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

RODERICK J. PARKE

Consulting Electrical Engineer

MUNICIPAL ELECTRIC LIGHTING COMMERCIAL POWER INSTALLATIONS

Related Electric Lighting and Power Plants for Manufacturers. Estimates, Specifications, Advice on Tenders, Valuating.

10 Temple Building - TORONTO, CANADA

VAUGHAN M. ROBERTS

Civil and Sanitary Engineer

Waterworks, Sewers, Electric Light, Electric Railways.

Estimates and Specifications prepared. - Work attended. 18 Ontario Street, ST. CATHARINES

W. T. ASHBRIDGE, C.E.

A. M. CAN. SOC. C.E. 609 Temple Building, - TORONTO

Special Attention given to

MUNICIPAL IMPROVEMENTS

Sewerage Works, Water Supply, Pavements, Concrete Construction, Etc.

THE PHENIX BRIDGE & IRON WORKS

MANUFACTURERS OF STAY BOLTS AND ALL KINDS OF RIVETS

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

Prices on Application.

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



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

Write for Discount

HEAD OFFICE AND FACTORY: HAMILTON, CANADA

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



Manufacturers of Salt-Glazed Vitrified SEWER PIPES

Double Strength Railway Culvert Pipes, Inverts, Vents,

AND ALL KINDS OF FIRE CLAY GOODS

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.

THE CADWELL SILEX STONE CO'Y

SILEX STONE WALKS CURBINGS } A SPECIALTY

NOTICE TO CORPORATIONS. - It will be to your interest to get our prices before letting contracts C. W. Cadwell, Manager, Windsor, Ont.

CANADIAN CONTRACTORS' HAND-BOOK

(SECOND EDITION)

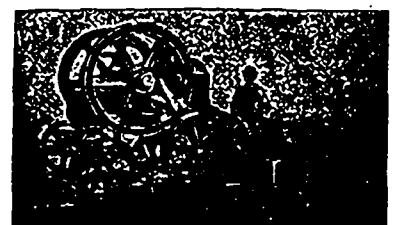
Contains 150 pages of the most valuable information, substantially bound in cloth. Price, \$1.50; to subscribers of the "Canadian Architect and Builder," \$1.00.

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 - SHELBROOKE, 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.



**SILICA PORTLAND CEMENT.**

(Continued from page 4.)

or particle of silica is enveloped, wrapped up, in a layer of flour-like cement, and offers a clean sharp surface for the cement to adhere to. All very finely ground cements show strong adhesive properties, hence we see the useful function the silica performs. It takes the place of, primarily, the unground clinker, and secondarily, is an excellent filling material, wholly inert under the usual conditions to which cement mortar is exposed, and in itself is stronger than the unground particle of clinker it has displaced. Owing to the exceedingly fine conditions of the material, when tested neat it does not give as high a tensile strength as the more coarsely ground Portland cement, yet when made up into mortar with three parts of sand it actually equals in strength a like proportioned mixture of the Portland.

It is a peculiar fact that mortars made from very finely ground cement do not show quite as strong a resistance to abrasion, although they excel in adhesive properties. Hence the concrete for pavements and such like work preferably should be made of silica Portland and the top wearing surface of the coarser Portland cement.

There are certain uses which silica cements are peculiarly well adapted to. Speaking generally, all cases where the low percentage of lime is an important factor. In lining digesters for the manufacture of sulphite wood pulp, it has been found of the very highest value, also in sewers where free ammonia or acids are likely to attack the mortar, and in all such cases.

In pointing fine stone work, the color and permanent properties are peculiarly valuable.

Silica Portland cement has already largely entered the market and proven itself a valuable cement. The following partial list will show to what extent and the nature of the work where it has stood the test of experience: The Laurentide Pulp Co., Grand Mere, Que., 21,000 barrels in concrete masonry, floors, brickwork, etc.; Montreal Street Railway Company, in concrete and floors, etc., 2,500 barrels; Canada Paper Company, Windsor Mills, 1,000 barrels; W. W. Ogilvie, Montreal, 1,000 barrels; Holland-Emery Lumber Company, Byng Inlet, for gang saw foundations, 750 barrels; Rordan Paper Mills, 1,000 barrels; Dalhousie street station, C.P.R., Montreal, masonry, floors, etc., 2,200 barrels; Louise Point Asylum, Montreal, 880 barrels; Ottawa pavements, 3,500 barrels; Cornwall pavements, 600 barrels; Waterloo pavements, 900 barrels.

It has also been used in sidewalks and pavements in Ontario towns to the extent of some 10,000 barrels. Among other users are the Grand Trunk and Canadian Pacific, Central Ontario and Bay of Quinte railways, and the Public Works Department, Ottawa. In all over 75,000 barrels of Silica Portland cement have been used in Canada, although the manufacture was not undertaken until the season of 1897. Arrangements are being

made to double the output for the ensuing season.

It has been said by rivals that this cement gives facilities for adulteration not equalled by other cements, and objections have been made by some that they had plenty of sand without buying it in the form of cement. Of course, all such objections are met at the outset with every new material. When Portland cement was first produced, it had to undergo an equally hostile criticism, and this naturally brings us to consider the testing of cement, a subject on which there has been a great deal written.

The following scheme conforms to the best thought and experience in the engineering world:

**TESTING: HOT BATH TEST.**—Fajas apparatus is so simple and so well known that it is unnecessary to describe it, but let me draw attention to a point sometimes overlooked. The sample when trowelled on the glass should be well worked up, the air and excess of moisture worked out, and the sample be covered with a wet cloth, otherwise drying cracks may show up across the thickest part of the slab. This drying crack is sometimes mistaken for an expansion crack and the cement condemned. Too much importance is sometimes attached to the fact that the sample cleaves the glass. If, as is usual, smooth glass is used, the slightest jar will loosen the slab. If it preserves its shape and does not curl up, or show fine hair cracks at the edges, there is no danger to be apprehended from free lime; in fact, from the low percentage of lime present a blowey Silica Portland cement is almost an impossibility.

**SPECIFIC GRAVITY, WEIGHT PER BUSHEL, OR OTHER DENSITY TEST.**—Silica Portland cement weighs a little less than Portland cement. It is so very finely ground that for equal measures, owing to greater bulkiness, it must weigh less. In any case, the old test of weight per bushel should be abandoned as being unscientific and misleading, offering, as it does, a premium on coarse grinding.

**SPECIFIC GRAVITY.**—The specific gravity test is a delicate laboratory test, and is one requiring a high degree of care and skill; as usually constructed by volumetric displacement, confined air, a minute error in reading, a slight change in the temperature of the liquid used, or irregularity in measuring apparatus or weighing, may give widely varying

results. The object of the test is determining the density of the cement, i.e. the sufficiency of the burning, in other words the soundness, hence the hot bath test practically suffices, and is much more easily made.

**TENSILE STRENGTH.**—Neat tests, usually made, show Silica Portland to be slightly weaker than Portland cement. This is probably due to the fine grinding. Mortar tests, however, are the best of all and show the real working qualities of any cement; and it is as a mortar make that silica Portland proves its good qualities.

Having satisfactorily determined the safe qualities of the cement, having shown it to be sound and strong, both in neat and mortar tests, all of which should be in condition precedent to beginning the work, it sometimes happens that still the concrete or masonry shows poor work. Well, what are we to do then? Condemn the cement? No, suspect the sand, examine the gravel or broken stone, the water, the temperature of the air, the methods of mixing and measuring the aggregates, depositing in place, ramming, etc. After all, the cement is only one of the factors in the problem; for a complete solution we should investigate the whole of them.

Do not try the experiment of building works out of cheap lean concrete. Consider the relatively small saving a few barrels more or less of cement amount to in comparison with the value and importance of the work at stake. Your reputation as engineers will depend upon your capacity to do good sound work.

**A LARGE COVERED RESERVOIR.**

One of the largest covered reservoirs on the Southern California coast, if not on the Pacific coast, is that which was recently completed at Pasadena. It measures 525 feet in length by 350 feet across its widest part and varies in depth from 17 feet to 19 feet 8 inches. It is said to have a capacity of 21,000,000 gallons. It was originally constructed in 1875, but as in the summer months the warm rays of the sun cause vegetable growth to accumulate in the reservoirs, it was decided to cover the reservoir in order to prevent this. In the present instance the cover is made of 2-inch Oregon pine boards, which rest upon 2 x 8 joist 6 feet apart, these being supported by 4 x 10 girders. The girders turn are supported by 2-inch iron pipes as posts, and set 18 feet one way by 15 feet 9 inches the other. The cover is raised by about 2 feet above the rim of the reservoir, a wire screen covering the intervening space to afford ventilation.

**Portland Cements.**

HIGH GRADE GERMAN BRANDS FOR GRANULITHIC AND ARTIFICIAL STONE SIDEWALKS.

**Sewer Pipes, Culvert Pipes, &c.** Best English Cements. Best Belgian Cements. **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 BRANDS

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.

\$ \$ \$ \$

11 x 1 boards and scantling 9 00	10 00	10 00	12 00
lapping cull boards, pro-			
miscous widths.....12 00	13 00		13 00
lapping cull boards, stocks	15 00		16 00
lock scantling and joist			
up to 16 ft.....10 00	12 00		10 00
lock scantling and joist			
up to 18 ft.....11 00	2 00	12 00	3 00
lock scantling and joist			
up to 20 ft.....12 00	13 00	13 00	14 00
car for paving, per cord.....	5 00		5 00
car 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	30 00		30 00
" " 36 ft	31 00		31 00
" " 38 ft	33 00		33 00
" " 44 ft	39 00		36 00
lating up planks, 1 3/4 and			
thicker, dry.....25 00	28 00	25 00	30 00
B. M.			
4 in. flooring, dressed, F M.	34 00	36 00	28 00
inch flooring, rough, B M.	18 00	22 00	18 00
" " dressed, F M.	25 00	26 00	27 00
" " undressed, B M.	18 00	19 00	18 00
" " dressed.....18 00	20 00	18 00	22 00
" " undressed.....12 00	15 00	12 00	15 00
aded sheeting, dressed.....20 00	25 00	22 00	35 00
boarding, dressed.....	14 00	8 00	12 00
XX sawn shingles, per M			
6 in.....2 40	2 35		3 00
X sawn shingles.....1 60	1 50		
swatth, No. 1.....1 75	2 00	2 50	2 6
edar.....3 90			2 9
ed oak.....30 00	40 00	30 00	40 00
hite.....37 00	45 00	35 00	55 00
asswood, No. 1 and 2.....28 00	30 00	18 00	20 00
erry, No. 1 and 2.....70 00	90 00	70 00	80 00
hite ash, No. 1 and 2.....24 00	35 00	30 00	35 00

(Continued on Page 8.)

WATER CRANES

EST. 1852

ST. LAWRENCE FOUNDRY CO.  
OF TORONTO, LIMITED.

ARCHITECTURAL IRON & STEEL WORK

FORGINGS & CASTINGS

CAST-IRON GAS, WATER & SEWER PIPES.

SPIKES & BOLTS.

PATTERNS & MODELS.

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

262 to 268 FRONT ST. EAST. TORONTO.

INDICATOR VALVE POST  
FOOT AND CHECK VALVES

INDICATOR AND GATE VALVES

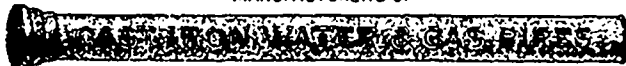
2-3 & 4 WAY HYDRANTS

Montreal Pipe Foundry Co. Ltd.

SUCCESSORS TO

DRUMMOND, McCALL PIPE FOUNDRY CO. LTD

MANUFACTURERS OF



OFFICES  
CANADA LIFE BUILDING

MONTREAL

SPECIAL CASTINGS  
FLANGE PIPE  
BRANCHES  
HYDRANTS  
VALVES  
VALVE BOXES

LONDONDERRY PIPE FOUNDRY

Cast Iron Water and Gas Pipes, etc.

Londonderry, Nova Scotia

Notice to Contractors

WE can save you money on.....

Granolithic or Crushed Stone

any size, as we have the most complete plant in Canada. You will consult your own interests by getting 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,  
Office, 482-484 Yonge St., Toronto

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.



Prices of Building Materials.

(Continued.)

Toronto, Montreal.

BRICK—M

Table listing brick prices for Black Ash, Dressing stocks, Picks, American Inspection, Three uppers, Am. Inspection, Common Walling, Good Facing, and Sewer.

PRESSED BRICK, PER M.

Table listing pressed brick prices for Red, Buff, and Sewer types.

F. O. B. DON VALLEY.

Table listing various stone and brick prices from Don Valley, including Red A, Red B, Red C, Trojan, Pompeian, Athenian, Lybian, Sicilian, Roman, Carthaginian, Ornamental, and Common insides.

F. O. B. BEAMSVILLE.

Table listing various stone and brick prices from Beamsville, including Peerless Facing, Red, Buff, Brown, Roman Red, Buff, Brown, Sewer, Roof Tiles, Hip Tile, and Ridge Tile.

SAND.

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

STONE.

Table listing various stone prices including Common Rubble, Large flat Rubble, Foundation Blocks, Ballochmyle, New York Blue Stone, Granite, Moat Freestone, St. Oldhelm, Black Pasture, Thomson's Gate, Clark's N. B. Brown Stone, Brown Free Stone, Amherst Red Sandstone, Elgin Town Quarries, Madoc Rubble, Madoc dimension floating, Scorize Paving Blocks, and Masillon.

OHIO FREESTONE.

Table listing Ohio freestone prices for No. 1 Buff Promiscuous, No. 1 Buff Dimension, No. 1 Blue Promiscuous, No. 1 Blue Dimension, Sawed Ashlar, and Sawed Flagging.

CREDIT VALLEY STONE.

Table listing Credit Valley stone prices for Rubble, Brown Coursing, Brown Dimension, Grey Coursing, and Grey Dimension.

LONGFORD STONE.

Table listing Longford stone prices for Rubble, Ashlar, Kent Free stone Quarries, River John, and Quebec and Vermont rough granite.

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

Large index table listing various categories such as Architects, Creosote Stains, Drain Pipe, Elevation, Electrical Apparatus, Engravers, Fire Brick and Clay, Folding Partitions, Galvanized Iron Workers, Grilles and Railings, Hoating, Interior Decoration, Lime, Masons, Builders' Hardware, Contractors' Plant and Machinery, Church and School Furniture, Cement, Granite, Slate, Paints, and Roofers.

Toronto, Montreal.

Table listing prices for Ontario, Keene's Coarse Whites, Fire Bricks, Lime, Plaster, Hair, and Hardware.

Table listing prices for Cut nails, Steel, Iron Pipe, and Lead Pipe.

Table listing prices for Galvanized Iron, Structural Iron, and Portland Cement.