

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. 12.

FEBRUARY 6, 1901

No. 1.

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:
Imperial Building, Montreal.
Telephone Main 2299.

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 publishers of any irregularity in delivery of paper.

FOR SALE.

A splendid chance for investment—the well known "Kline" Granite Quarries, situated about 3 miles from the centre of the city, containing over 300 acres, with 3 good quarrying openings, well equipped with derricks and tools, steam and horse hoists, also stone saw and polisher. Easy access to any part of the property. As there are 3 good sized lakes on the property, there could be a profitable ice business established.

For further particulars address

JOHN KLINE,
Granite Dealer, Halifax, N. S.



Scaled tenders, addressed to the undersigned, and endorsed "Tender for Elevator Wharf Extension at Depot Harbour, Ont.," will be received at this office until FRIDAY, 22ND FEBRUARY, 1901, for the construction of an additional length to the Elevator Wharf Depot Harbour, Muskoka District, Ontario.

Plans and specifications can be seen at this Department at the offices of M. H. A. Gray, resident engineer, Confederation Life Building, Toronto; The Resident Engineer, Room 411, Merchants Bank Building, St. James St., Montreal; Mr. E. B. Bland, Clerk of Works, Post Office, Quebec, and on application to the Postmaster at Parry Sound, Ont. Forms of tender can also be obtained at the above mentioned places.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied and signed with their actual signatures.

The contractor will be required to conform to regulations to be made by the Governor General in Council respecting the accommodation, medical treatment and sanitary protection of the working men employed on the work.

Each tender must be accompanied by an accepted cheque on a chartered bank, made payable to the order of the honourable the Minister of Public Works, for twenty-five thousand dollars (\$25,000). The cheque will be forfeited if the party declines the contract or fails to complete the work contracted for. If the tender be not accepted, the cheque will be returned.

The Department does not bind itself to accept the lowest or any tender.

By order,
JOS. R. ROY,
Acting Secretary.

Department of Public Works of Canada,
Ottawa, January 22nd, 1901.

No notices inserting this advertisement without authority from the Department will not be paid for it.

SITUATION WANTED

Architectural Draughtsman desires situation; young man; references.

N. MOFFATT,
Renfrew, Ont.

TENDERS WANTED

Tenders will be received by the undersigned up to noon of MONDAY, FEBRUARY 11TH, 1901, for the construction of abutments and superstructure of a bridge over the River Thames, 1 1/2 miles south of Tavistock, in the Township of East Zorra. Abutments to be of quarry stone facing and field stone backing, 1/2 ft in cement mortar. Total height 22 ft. in height, with foundation 6 ft. in thickness. Bridge to be of half slope, Pratt truss pattern, 60 ft. long and 14 ft. wide, with seven lines of steel joisting, and covered with 3/4 in. oak covering. Tenderers to find all materials and plan and short specification of proposed work, and my offer for either abutments, or bridge, or both. The lowest or any offer not necessarily accepted. Tenders to be opened and contract awarded, if satisfactory, on the above date at 2 p.m. at the Union Hotel, Tavistock. Address

JAMES ANDERSON,
Clerk East Zorra,
Tavistock P. C.

DEBENTURES FOR SALE

Scaled tenders, marked "Tender for Debentures," addressed to Samuel H. McKay, Esquire, Mayor, will be received until MONDAY, THE 11TH DAY OF FEBRUARY, 1901, at the hour of four p.m., for the following Town of Tavistock Debentures, viz: 1st. Tenders for \$4,120.18 Local Improvement Debentures, interest four per cent per annum, issued on sinking fund plan, re-payable in twenty years.

Tenders will be received for the above issues and tenderers are requested to state a bulk amount payable on 15th February. The said debentures will be delivered at Walkerton to the party whose tender may be accepted within 30 days from receiving and opening tenders. The highest or any tender not necessarily accepted. All information required will be furnished on application to William Collins, Esquire, Town Treasurer.

Dated this 30th day of January, 1901.

W. S. GOULD,
Town Clerk.

TO STEEL BRIDGE BUILDERS AND MASONRY CONTRACTORS

Scaled tenders, endorsed "Tender for Substructure," will be received until SATURDAY, 9TH FEBRUARY, 1901, for the construction of a wrought iron or steel bridge over the Nation River at St. Albert, Ont.

The bridge to consist of one span of 193 feet clear, with a roadway of 18 feet wide, clear, and to be proportioned to carry (in addition to its own weight) a moving load of 70 lbs. per square foot of floor area. Tenderers for the above work must furnish complete plans, strain sheets, specifications, &c., or their tenders will not be considered. As a guarantee of good faith each tender must be accompanied by an accepted cheque for \$250.00 in favor of Morris Shaver, Reeve of Cambridge Township. This cheque will be returned if the tender is not accepted. Scaled tenders will also be received for the abutments, of concrete and masonry, for the above superstructure, until the above mentioned date. Plans, specifications, &c. for the masonry can be seen after 31st January, 1901, at the office of Morris Shaver, Esq., Reeve. Tenders may be addressed to Morris Shaver, Esq., Reeve, South Indian, or to J. B. Sanchez, Clerk, Myererville, Ont.

Superstructure to be completed, ready for traffic not later than 15th September, 1901.

N. B. Superstructure must also be designed so as to carry with safety a concentrated load of 8 tons on two axles of 7 feet centres.

J. B. LEWIS,
Engineer in Charge.

Tenders Wanted

Scaled tenders will be received up to 12 o'clock, FEBRUARY 15TH, for the erection of a Manse for the Presbyterian church in the town of Whitby. For plans and specifications apply to

JOHN BURNS, Sec. of Com.,
Whitby, Ont.

COUNTY OF LAMBTON.

TO BRIDGE CONTRACTORS.

Scaled tenders, endorsed "Tender for Abutments," will be received by the undersigned up to 11 noon on Tuesday, the 19th of February, 1901, for the construction of the abutments for the Aughrim Bridge, town line Brooke and Euphemia.

Plans and specifications may be seen at the office of A. S. Code, O.L.S., Alvinston, on and after the 4th day of February.

Contractors will be required to furnish satisfactory security for the due completion of the work. The lowest or any tender not necessarily accepted.

A guaranteed cheque for \$50 to accompany tender as a guarantee of good faith. To be returned if unsuccessful.

A. MCINIKEL, Chairman Committee.
A. S. CODE, Engineer.

Alvinston, Jan. 28th, 1901.

Tenders Wanted

Scaled tenders will be received by the undersigned, on behalf of the Counties of Huron and Perth, until 4 o'clock p.m. on WEDNESDAY, THE 20TH INST., at the Wingham post office, for erecting the

Superstructure of a Steel Bridge

over a branch of the Maitland river, on the boundary line between the townships of Howick and Wallace, the bridge to be of one span of fifty (50) feet clear between the abutments; roadway to be 16 feet clear between the trusses; to have Steel Joists pipe railing, three tiers, floor 3 inches thick, of rock elm or tamarac. The bridge to be completed on or before the 31st day of July next, 1901, not more than 10 feet from bed of stream to floor, but little water, hard bottom to stream; good place to build a bridge; about seven miles from railroad station. Security required for the due completion of the structure. The lowest or any tender not necessarily accepted.

JOHN ANSLEY,
County Commissioner.

Wingham, February 4th, 1901.

CONTRACTS OPEN.

FORT MCLEOD, N.W.T.—A new court house will be built here.

CHESTERVILLE, ONT.—Tenders are invited by W. D. Lawson up to February 16th for erection of residence.

KINCARDINE, ONT.—A proposition has been made by J. L. Watson and others to build a furniture factory here.

AMHERST, N.S.—The council have appointed a committee to consider the advisability of erecting a new jail.

MITCHELL, ONT.—George Sawye, has purchased a lot in the North ward on which he will build a residence.

PORT HOPE, ONT.—The corporation is about to invite tenders for the supply of 70,000 feet of plank and scantling.

TORONTO JUNCTION, ONT.—The school board will shortly ask for tenders for building a new school in Ward three.

KINGSVILLE, ONT.—Ernest Bailey is having plans prepared for a new tobacco factory, two stories high, 180 feet long.

ROSSLAND, B.C.—It is stated that the water power of the Pend d' Oreille river is about to be utilized by a New York syndicate.

SAULT STE. MARIE, ONT.—Willis Chipman, C.E., of Toronto, has been engaged to design a sewerage system for this town.

BROOKFIELD, ONT.—Thomas Higgins has purchased property here on which he will build grist and saw mills in the spring.

NANAIMO, B.C.—There is a proposition on foot to build a bridge over the ravine near the Extension mine; estimated cost, \$4,500.

INGERSOLL, ONT.—A proposition has been made to purchase a certain residence in town and remodel it for the purposes of a hospital.

SMITH'S FALLS, ONT.—Canadian and American capitalists are considering the erection of a summer hotel on the Rideau river near Portland.

SACKVILLE, N.B.—Plans for the proposed new ladies' college have just been received from the architects, Burke & Horwood, of Toronto.

CARLETON PLACE, ONT.—Bids for building a frame school house in S.S. No. 8, Beckwith, are invited by J. H. Ferguson, Box 182, up to 18th inst.

ST. CATHARINES, ONT.—W. B. Allen, architect, asks tenders up to 7th inst. for erection of brick building and bakery on Queen street for Shelly Bros.

BARRIE, ONT.—The board of management of the Presbyterian church have submitted plans for an addition to the edifice, to cost \$2,700, and for a new pipe organ.

HARROWSMITH, ONT.—The township of Portland will ask the Legislature to pass an act providing for the drainage of land in the townships of Portland and Camden.

HALIFAX, N. S.—Plans for the new theatre to be built here have been received from Geo. H. Johnson, theatrical architect, of St. Louis. The promoter is H. P. Clarke.

DEPOT HARBOR, ONT.—R. Bruce, C.E., of Ottawa, is taking soundings of the harbor here where the Canada Atlantic Railway will build docks and slips for new coal yards.

WOODVILLE, ONT.—It is the intention of A. Graham to build a brick residence in the spring.—C. Caverly and H. Wilson are each preparing to erect brick residences this season.

PORT DOVER, ONT.—The town will vote on a by-law to loan \$10,000 to the Canadian Steam Carriage Co. to establish a factory here for the manufacture of steam automobiles.

PORT CARLING, ONT.—The Muskoka Lakes Association have asked the Ontario Minister of Public Works to provide an enlarged lock to connect lakes Rosseau and Muskoka.

WOODSTOCK, ONT.—The Y. M. C. A. directors have decided to erect a new association building.—The county council will build a steel bridge between Dereham and West Oxford.

COATCOOK, QUE.—The electors have passed a resolution in favor of raising \$12,000 by the issue of debentures for the erection of a new academy building. J. J. Fisk is one of the promoters.

MILLBANK, ONT.—Tenders for building a new school house in S. S. No. 8, Mornington, will be received by S. W. Coulter up to February 15th. Plans by W. E. Binning, architect, of Listowel.

ST. JOHN, N.B.—The water and sewerage board will ask the city council to

approve of an expenditure of \$16,000 for the improvement of the water supply, principally in the north and west ends of the city.

VICTORIA, B.C.—The Dominion Government has decided to build a telegraph line, 200 miles in length, from Port Simpson eastward to Hazelton.—J. G. Tarks is about to build several residences at Esquimalt.

DARTMOUTH, N.S.—A committee of the town council have submitted an estimate of proposed water and sewer extensions. The total cost is given as \$56,507. The matter will be taken up at an early meeting of council.

AURORA, ONT.—The council will submit a by-law to the electors to raise \$10,000 to bonus the boot and shoe factory of Underhill & Sisman, now located at Markham. The firm agree to erect a three storey factory 40 x 100 feet.

WILLIAMSTOWN, ONT.—Geo. H. McGillivray, township clerk, invites tenders up to 15th inst. for construction of a stone arch bridge with single span of 42 feet, and for two stone abutments for an iron span of the same length.

PETERBOROUGH, ONT.—Representatives of the American Cereal Co. were in town last week completing negotiations for the purchase of the water power of the Dickson Co., and it is understood that active operations are to be begun at once.

ALVINSTON, ONT.—The county council desires tenders by Tuesday, February 19th, for construction of stone abutments for the Anghrim bridge on town line between Brooke and Euphemia. Specifications at the office of A. S. Code, O.L.S., this town.

BRANTFORD, ONT.—H. F. Leonard, secretary of the board of health, invites tenders up to February 8th for the supply of three two-wheel dumping carts.—The Ontario Government has granted permission to the city to issue \$20,000 of debentures.

STRATFORD, ONT.—The property committee of the county council has recommended that tenders be invited for a system of hot water heating for the vault and office of the North Perth registry building, parties tendering to furnish plans and specifications.

HAMILTON, ONT.—A committee has been appointed to solicit subscriptions to erect a monument in Gore park to the memory of Queen Victoria.—E. B. Patterson, architect, has taken out a permit for a brick dwelling on Barton street for A. Swazie, to cost \$1,700.

PERTH, ONT.—Mr. MacLean has given notice in the county council that he will introduce a by-law to establish a house of refuge, and to raise \$20,000 by debentures for that purpose.—W. J. Wilson has purchased property on Darcy street on which he intends building a brick dwelling next summer.

LINDSAY, ONT.—The bridges committee of the county council have recommended that a deputation memorialize the Ontario Government to rebuild the bridge across the Burnt river at Kilmornie; also that a sum be granted to the township of Dalton to assist in rebuilding Kehoe's bridge across the Black river.

WELLAND, ONT.—A committee of the county council has recommended that steps be taken at once to rebuild the Becket and O'Reilly bridges.—The council will memorialize the Dominion Government to build a new bridge across the Welland canal at Main street, also to rebuild certain bridges in the township of Thorold.

ST. THOMAS, ONT.—The Lake Erie and Detroit River Railway will ask this city for a bonus to erect repair shops

here.—Mr. McCubbin, C.E., is making surveys for the Tilsonburg and Lake Erie Railway from Tilsonburg to Ingersoll. He expects to have his plans completed so that the work of construction may be begun in the early spring.

ST. MARY'S, ONT.—The county council has recommended that John Schaeffer take steps looking to the building of a new bridge on the county line between South Easthope and East Zorra. A committee has also been appointed to act in conjunction with the Huron commissioners to have a new structure built to replace the Wallace-Howick bridge.

OTTAWA, ONT.—The council is considering the establishment of an incinerator.—The Board of Health have decided to recommend the erection of a contagious diseases' hospital on the plans originally proposed, the cost of which will be about \$40,000.—Tenders will be invited for the new store to be built by T. Lindsay & Co. as soon as plans are finally decided upon.

NIAGARA FALLS, ONT.—The Board of Works is considering the building of permanent walks on River road, from Morrison street to the park.—The Niagara Falls, Wesley Park and Clifton Tramway Co. have appointed a committee to arrange for the construction of the road. The plan is to establish a belt line running in connection with the Niagara Falls Park and River Railway.

WINNIPEG, MAN.—W. R. Baker has taken tenders for removing the buildings at Nos. 468 and 470 Main street, the site to be left clear for rebuilding.—It is said that provision will be made in the civic estimates for the erection of a fire hall in Fort Rouge.—D. B. Hanna, superintendent of the Canadian Northern Railway, states that tenders for the new bridge over the Red river will probably be invited next week.

SYDNEY, N. S.—New York parties have purchased a valuable property on Charlotte street.—Rhodes, Curry & Co., contractors, are said to have bonded the Bournot property below the Sydney hotel, with the intention of building a large wharf for storing and landing building material.—It is estimated that the Dominion Iron & Steel Co. and the Dominion Coal Co. will build several hundred dwellings here this year.

CHATHAM, ONT.—The Chatham City & Suburban Railway Co. will ask for an extension of time to construct their road.—The county council have made a grant of \$1,000 to assist in building an iron bridge over Jeanette's creek, and a similar grant for an iron bridge over the Crawford creek on Talbot road.—Tenders are asked by J. L. Wilson & Son, architects, up to Friday, the 8th inst., for additions and alterations to residence of John Downey, township of Harwich.

BROMPTON FALLS, QUE.—The Brompton Pulp & Paper Co. has begun the preliminary work of laying out a site for the proposed pulp and paper mills to be built here. The company have recently purchased a water power from the British American Land Company. The works proposed will cost several hundred thousand dollars, and it is expected that the Sherbrooke railway system will be extended to this village as a result of their construction.

QUEBEC, QUE.—W. D. Baillairge, Assistant City Inspector, will receive tenders up to February 27th for the construction of an iron bridge over St. John street. Cheque for \$200 to accompany tender.—The Quebec Pulp & Paper Co. has been organized here, with capital of \$350,000. The works will be situated at Indian Lorette, and will consist of ground wood pulp mills, sulphite pulp mills and a paper mill. R. Wilson-Smith,

Meldrum & Co., of Montreal, are brokers for the company.

KINGSTON, ONT.—A deputation has asked the county council to make a grant of \$20,000 with which to erect a public hall on the campus of Queen's University.—Arthur Ellis, architect, has taken tenders for the erection of an additional storey, with steam heating, to the Medical building of Queen's University.—The city engineer has recommended the purchase of a street scraper.—The authorities of the First Baptist church have decided to purchase a site on which to build a new edifice.—Power & Son, architects, are this week taking tenders for improvements to two stores on Princess street.

LONDON, ONT.—The fire chief has submitted to council his annual report, in which he recommends the erection of a new fire hall in the north part of the city and the purchase of a chemical engine and 600 feet of fire hose.—The city engineer is preparing a list of the cement walks to be constructed this year.—Tenders are about to be invited by the city for the supply of a watering cart.—James Luney is building a brick house on St. James street, between Maitland and William.—Herbert Matthews, architect, is preparing plans for three new brick residences on Pircadilly street.—H. C. McBride, architect, is fitting up a branch in the east end for the Bank of Toronto.

VANCOUVER, B. C.—The largest light-house on the coast will be erected on Lawlor's Island. A new hatchery, to cost \$75,000, will also be built there.—The chairman of the fire and light committee has pointed out the necessity of new buildings to replace Nos. 1 and 2 fire halls. The erection of a new police station may also be undertaken this year.—St. Andrew's church congregation has decided by a popular vote to purchase property on Bute street and erect thereon a building suitable for a mission church and Sabbath school. Messrs. McLennan and McQueen have been instructed to procure plans.—The Stave Lake Power Co. is negotiating with the city with a view to securing certain privileges as to the construction of poles and wires. The company agree to expend \$400,000 in building dams, power houses and other works, and in transmitting power to this city.—The British Columbia Railway Co. are calling for tenders for a brick addition to the power house at Goldstream to accommodate the new plant to be installed shortly.—The engineering business of Armstrong & Morrison has been purchased by the Vancouver Agency, Limited, Colin F. Jackson, manager. It is the intention to enlarge the works and erect a modern foundry.

MONTREAL, QUE.—At an early meeting of council specifications will be submitted on which to invite tenders for the electric lighting of the city after the expiration of the present contract.—The chairman of the fire committee will introduce a by-law in council authorizing a special loan of \$100,000 for the building of a fire station in the centre of the city, and to purchase two fire engines and two water towers.—A special committee of aldermen have decided that two hospitals for the treatment of contagious diseases are necessary, and it is proposed to give \$50,000 each to the Grey Nuns and the Royal Victoria Hospital to assist in the erection of suitable buildings.—Ald. Martineau, chairman of the road committee, states that his department will require \$25,000 for permanent sidewalks and about \$35,000 for replacing wood pavements with stone blocks on portions of Craig, St. Lawrence and St. Denis streets.—Another electric lighting company is in process of formation, to establish an electric light plant near Riviere des Prairies and to supply electricity to Sault au Recollet, Longue Pointe and

other towns. Eugene Mony, civil engineer, and J. A. O. Laforest, former superintendent of the Montreal waterworks department, are interested.—The president of the Board of Trade has announced himself in favor of the reconstruction of the burned building.—L. O. David, city clerk, invites bids up to Thursday, 7th inst., for supply of 4,000 feet of fire hose, 50 feet of 3/4 inch hose for the water tower, and 50 salvage covers.—J. Coristine & Co., whose block on St. Paul street was destroyed by the recent fire, have decided to rebuild as soon as the weather will permit.—The harbor commissioners want tenders by noon of 15th inst. for annual supply of castings, spikes, bolts, oils and other stores.

TORONTO, ONT.—Burke & Horwood, architects, have taken tenders for a five-story building to be erected by the William Davies Co. on the present site of Shaftesbury Hall, corner Queen and James streets. It is expected that the work will be proceeded with in the spring.—It is understood that the Ontario Legislature will be asked to make an appropriation for an addition to the Central Prison, to include a new set of baths, a number of isolated cells, and a chapel for the use of Roman Catholic prisoners.—It has been suggested that the memorial to the late Queen Victoria, to be provided by the citizens of Toronto, take the form of an art museum building.—The acting city engineer has recommended the construction of the following works: Asphalt pavement—Bloor street, Yonge street to Avenue road, cost \$18,985; Lowther avenue, Walmer road to Brunswick avenue, cost \$3,930; Bedford road, Bloor street to Lowther avenue, cost \$6,415; Balmuto street, Bloor to Czar, cost \$4,350. Brick pavements—Hayden street, Yonge to Church, cost \$6,840; Wellington street, York to Simcoe, cost \$8,260. Granite set pavement—Church street, Front to Esplanade, cost \$8,240. Tar macadam roadway—Howland avenue, Barton ave. to 2,130 feet north, cost \$12,770. Concrete sidewalks—Queen street, north side, Euclid to Bellwoods avenue, cost \$2,065; George street, east side, Front to 204 feet north, cost \$575; Queen street, north side, from 46 feet east of Dundas street to Bellwoods avenue, cost \$5,850; Front street, north side, George street to 137 feet east, cost \$370; Gould street, north side, Yonge to Church, cost \$1,526; Walmer road, east side, from No. 13 around the bend for a distance of 150 feet, cost \$253; Bloor street, south side, Avenue road to 151 feet west of Devonshire place, cost \$1,284.—The Board of Control will advertise for tenders for cedar sleepers for sidewalk purposes.

FIRES.

Factory of Stanley Piano Co. at Peterborough, Ont., totally destroyed.—Residence of Thurston Silmeier at Cornwall, Ont., totally destroyed.—Building of H. H. Acorn and residence and stores of P. Pampbell at Souris, P.E.I.; loss \$12,000, insurance \$9,000.—Residence of Jas. Sloane in Upper Melbourne, Que.; loss \$3,000.—Grain elevator of C. A. Young at Deloraine, Man.; loss \$10,000.—Building occupied by the Army & Navy Clothing Store, on King street, Toronto, damaged to extent of \$4,000.

CONTRACTS AWARDED.

VANCOUVER, B. C.—Stone and brick block for Dr. A. J. Holmes; T. Turnbull, contractor; price, \$12,000.

CALGARY, N. W. T.—The contract for superstructure of bridge across the Elbow river has been let to S. Spafford.

TRAIL, B. C.—Jas. A. Clarke has secured a contract for cribbing the river bank near the smelter; contract price, \$26,000.

PICTOU, N.S.—The contract for stand pipe for waterworks system has been let to the Chicago Bridge & Iron Co.; price, \$4,275.

DUNDAS, ONT.—The tender of G. A. Stimson & Co., of Toronto, has been accepted for purchase of \$7,177 debentures; price, \$7,352.

OWEN SOUND, ONT.—The council has accepted the offer of the Canada Life Assurance Co. to purchase \$30,875 5 per cent. town debentures for \$28,117.44.

LONDON, ONT.—Herbert Matthews, architect, has let the contract for furnishing shop fixtures for store on Dundas street for G. E. Kennedy to the S. Hadley Lumber Co., of Chatham.

KINGSTON, ONT.—H. P. Smith, architect, has accepted the following tenders for alterations to stone house of Mrs. Yates: Carpenter work, Jos. Hooper; masonry, Langdon & Hamilton; steam fitting and plumbing, J. W. Oldfin; painting, T. Milo.

FREDERICTON, N.B.—The tender of the Berlin Iron Works, of Three Rivers, Que., has been accepted by the Government for building steel bridges at the following places:—Tobique Narrows, Victoria county; Upper Corner, Sussex, Kings county; St. Louis, Kent county; Taylor dam, Rothesay, Kings county.

OTTAWA, ONT.—The Dominion government has let the contract for the construction of breakwater at Mispic, near St. John, N. B., to Simmons & Burpee for building a wharf at Carleton the tender of Smith & Haney has been accepted.—It is said that the lowest tender for constructing a new lock for the Lachine canal is the Canadian Construction Co., of Montreal.

BLASTING.

The coefficient is the quotient obtained by dividing the weight in pounds of the charge found capable of just rupturing the rock by the cube (or third power) of the length of the line of least resistance used in the experimental blast. As the resistances vary with the number of free faces, it is best to determine the rock coefficient separately for the different conditions in practical work. For example, if a tunnel is to be driven the conditions will be as follows: With each new "cut" there will be a certain number of "bearing in" shots to "unkey" the face. In this case the coefficient should be determined for the rock with one free face. The "enlarging shots," after unkeying, will have two, and in some cases three free faces. It will suffice to determine the co-efficient in these cases for the rock with two free faces. The method to be pursued will be sufficiently explained by describing the procedure for obtaining the rock coefficient with two free faces.³ Select a bench of the rock in which blasting is to be conducted, about two feet wide on top and three feet high. In this drill four or five holes of the diameter to be adopted in regular work in future three feet deep, so that the line of least resistance will in each case be two feet long. The holes should be bored as far apart as three times the length of the line of least resistance, so that the shots will not influence each other by opening up seams. The rock must be selected where it is homogeneous, so that all the shots will be fired under exactly similar conditions. Now charge the several holes

3. This gives what Daw calls the charging coefficient. Daw's method is more scientific, determining the rock coefficient and charging coefficient separately, but is not so easily applicable for the common miner. The method here given leads to sufficiently accurate results in practical work.

with different weights of the explosive, beginning with a quantity so small as not to effect rupture, and increasing by regular amounts to a charge which will be more than sufficient. Select the blast which has produced the desired effect as the one by which to determine the coefficient. If this hole was charged with $\frac{3}{8}$ lb. (0.625lb.) of dynamite, then the rock coefficient is $\frac{0.625}{23^{(=8)}} = 0.0781$. The charge to be used in future blasts is found by multiplying the cube of the length in feet of the line of least resistance by this coefficient. For instance, in this rock, a line of least resistance $2\frac{3}{4}$ feet long would require $2.75^3 (=20.797) \times 0.0781 = 1.624$ lb. of dynamite. As the specific gravity of well-compacted high-grade dynamite is about 1.6 (giving 0.0576 lb. per cu. in.), and as the bore hole has a diameter of $1\frac{1}{2}$ inch, the charge will occupy a length of 1.25 feet in the hole. This is approximately correct also as to the length of charge in the bore-hole, which should have been $1.5 \times 12 = 18$ inches. Guttman recommends that when there are more than two free faces the proper charge will be the following:

For three free sides, $\frac{2}{3}$ of the calculated charge.
 " four " $\frac{1}{2}$ " "
 " five " $\frac{1}{3}$ " "
 " six " $\frac{1}{4}$ " "

The economy in simultaneous firing will vary with the strength of the rock, but on an average it may be said to save about 25 per cent. of explosive. The economy of boring under the best conditions will amount to about 24 per cent. This depends on the distance apart of the bore-holes.

For very strong compact rock the distance between holes in simultaneous firing should be at least twice the length of the line of least resistance; for average strong rock, $1\frac{1}{2}$ to 2 times; for moderately strong rock, from the same length as the line of least resistance to $1\frac{1}{2}$ times that distance; and for weak rock only the length of the line of least resistance.

(To be continued.)

IMPORTANT EXHIBITION OF ARCHITECTURAL DRAWINGS.

By far the largest and most important exhibition of architectural drawings ever held in Canada is the one which is now open free to the public in the Galleries of the Ontario Society of Artists, King St. West, Toronto. This exhibition is being held under the auspices and direction of the Toronto Architectural Eighteen Club, in affiliation with the Architectural League of America. The American drawings for this exhibition were very carefully selected by a committee of the Architectural League in the leading cities of the United States. They represent the work of many

CENTRAL CANADA LOAN AND SAVINGS COMPANY
 Cor. King and Victoria Sts, TORONTO

Highest Market Prices paid for

Municipal Debentures

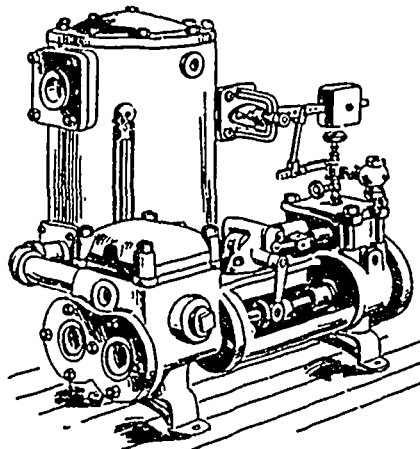
F. W. BAILLIE, Secretary. E. R. WOOD, Managing Director.

of the most skillful architects of the United States. The collection includes the original drawings for the Pan-American Exposition buildings at Buffalo. There are also in the collection a considerable number of drawings by Canadian architects. The exhibition, as already stated, is free to the public, being open every day from ten to five o'clock. Architects, builders, draughtsmen, and all persons who feel an interest in architecture, should make it a point, if possible, to visit this exhibition.

A. E. AMES & CO.
 BANKERS.
 18 King Street East, TORONTO.
Buy and Sell
GOVERNMENT, RAILROAD and MUNICIPAL SECURITIES.

Please mention the CONTRACT RECORD when corresponding with advertisers.

THE NORTHEY AUTOMATIC FEED PUMP AND RECEIVER

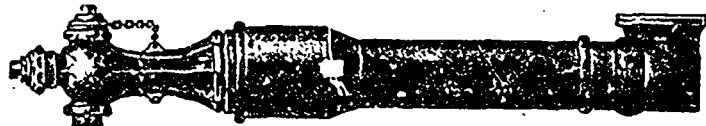


The most successful device in the market for returning water of condensation from pipes and coils of steam-heating systems at the highest possible temperature to the boilers. Keeping the pipes clear for the steam it ensures a quickly operated, noiseless, regular heating service. Takes up little room. A favorite with prominent Engineers and Architects.

Send for New Free Pump Catalogue, containing designs of Pumps for every conceivable duty. Should be in the hands of every Architect and Engineer.

The Northey Co.
 Limited TORONTO
 1015 King Street, Subway.

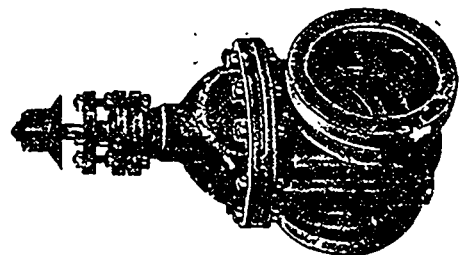
The KERR ENGINE COMPANY, Limited



Corporations and Contractors... should not fail to obtain our prices on

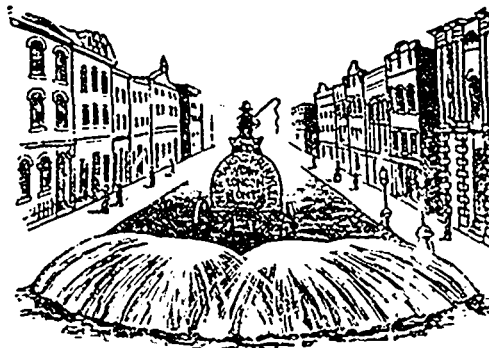
PUMPING MACHINERY, HYDRANTS and VALVES

WALKERVILLE, - ONTARIO



- Studebaker Sprinkler -

(PATENT IMPROVED)



Does not Clog or get out of Order.

Greatest Width of Spray.

Can be Gradeed from Driver's Seat to any Volume.

We also make an. . . .

Improved Vertical Spray

. . . . for Pavements

Write for Prices and Catalogue to

Geo. Heaman, Mfr.
 LONDON, ONT.

STONE Crushers, Stone Spreading Wagons, Wheelers and Drag Scrapers, Plows, Steam and Horse Rollers, Road Graders, &c.

SAWYER & MASSEY COMPANY, Limited - Hamilton, Canada

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

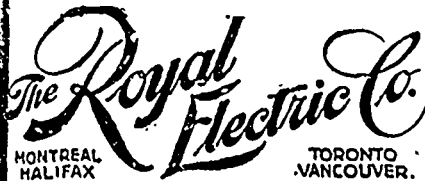
Paving Granite

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



Has transferred the manufacturing part of its business to

THE CANADIAN GENERAL ELECTRIC CO., LIMITED, TORONTO,

who will hereafter be glad to quote on all regular lines formerly made by

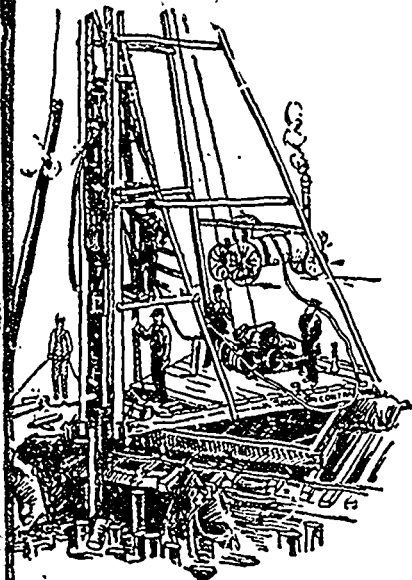
The Royal Electric Co.,

INCLUDING . . .

"S. K. C."

Alternating Current Apparatus.

Please mention CANADIAN CONTRACT RECORD when corresponding with advertisers.



PILE DRIVING

on land or water by Steam Pile Drivers or Drop Hammers.

**Portable Boilers
Hoisting Engines
Pumping Machinery
TO LET**

Bridge Building, Trestle Work, Wharves, Dams, Diving Submarine Work and General Contracting.

WM. HOOD & SON
10 Richmond Sq. MONTREAL

THE PHOENIX 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.

Dominion Bridge Co., Ltd.

P. O. Address, MONTREAL, P. Q.
Works at LACHINE LOCKS, P. Q.

STEEL BRIDGES

For Railways and Highways
Piers, Trestles, Water Towers
Tanks, Buildings, Roofs, Girders,
Beams and Columns

Toronto Agent: GEO. B. EVANS,
38 Canada Life Bldg., TORONTO, ONT.

BERLIN IRON BRIDGE CO.,

THREE RIVERS, P. Q.

MANAGER: P. E. LANE, PLACE VIGER HOTEL, MONTREAL.

MANUFACTURERS

Steel Bridges, Steel and Iron for Buildings,

and Structural Metal Work of all kinds.

Send for Catalogues, Plans and Estimates.

THE CADWELL SILEX STONE CO'Y
SILEX STONE WALKS CURBINGS } **A SPECIALTY**

TO CORPORATIONS.—Our 10 years' experience in Building Walks and Grading enables us to save the expense of an engineer in small towns where one is not regularly employed.

C. W. CADWELL, Manager
WINDSOR, ONT.

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

PORTLAND CEMENT

Samson Brand

Magnet Brand

MADE AT SHALLOW LAKE, ONTARIO

Our celebrated SAMSON BRAND has been before the public for many years, and has made hosts of friends among Contractors and Municipal Corporations until it has become one of the leading Cements on the market today, being excelled by none. This year we have decided to place the MAGNET on the market, and respectfully consumers to give it a trial. It will, we think, do its own advertising.

Correspondence invited.

GEO. S. KILBOURN, Secretary-Treasurer.

WORKS: Shallow Lake, Ont.

HEAD OFFICE: Owen Sound, Ont.

MCGREGOR & MCINTRYE

STRUCTURAL IRON WORKS

Trolley Pole Brackets; Electric Light Arms; Prison and Jail Cells; Fire Escapes; Automatic Fire Shutters and Doors; Iron Sidewalk Doors, &c.

We Stock BAR IRON, BAR STEEL, STEEL ANGLES, CHANNELS, Etc.

65 to 71 Pearl St., TORONTO, ONT.

THE CANADIAN SEWER PIPE CO.

MANUFACTURERS OF . . .



— FOB —

**Sewers
CULVERTS
AND
WATER PIPES.**

INVERTS

For Brick Sewers

Write for Discoun

ST. JOHNS, HAMILTON, P. Q., TORONTO, ONT.

TORONTO, ONT.

MUNICIPAL DEPARTMENT

THE ENGINEERS' CLUB OF TORONTO.

The annual meeting of the Engineers Club was held in the rooms of the society, 94 and 96 King street west, on January 8th. The chief business was the election of officers, which resulted as follows: President, A. L. Hertzberg; vice-president, Maj. H. A. Gray; secretary, Willis Chipman; treasurer, C. M. Caniff; directors, T. R. Rosebrugh, James McDougall and Cecil B. Smith.

After the election, Mr. M. J. Butler introduced the following topic for discussion; "What are the essential qualities required in a specification for Portland cement?" This discussion was continued at the meeting on January 22nd, when Mr. Butler concluded his remarks. In the opinion of Mr. Butler the qualities for which cement should be tested are: 1, form and evenness of grain; 2, color and specific gravity; 3, time of setting; 4, hardening; 5, strength; 6, constancy of volume; 7, hair cracks and shrinkage cracks; 8, behavior under extreme heat and cold; 9, additions and adulterations.

Mr. Butler's remarks created an interesting discussion. Mr. Cecil B. Smith said that manufacturing methods had undergone a great change. The specifications in the past were made with a view to guiding the manufacturer in his product, but at the present time the specifications were below what manufacturers turned out. It was not necessary that in a good quality of cement the strength should continue to increase, as it had been found that at the end of one week the strength is as great as it ever is. He was of the opinion that the methods employed in making blowing tests are inefficient.

Mr. Rogers, of Peterborough, stated that his experience had been that the strength continues to increase for about a month, then goes back, and in two or three years is no greater than it was at two or three days.

Mr. Haney thought that tests of cement are usually not carried over a sufficient time to give accurate results. He had found the maximum strength at a very early period.

In reply to a question as to the manner of roasting the cement, Mr Butler said that the rotary kiln was undoubtedly the best, as it permitted of the proper application and regulation of the heat.

Mr. E. H. Keating said that he had frequently found himself in need of some ready method of testing cement, to which Mr. Butler replied that a test as to the form and fairness of grain and the constancy of volume would answer the purpose.

Mr C. H. C. Wright said that in late years the tendency was to take the tensile

strength only. The tests seemed to show that the compressive strength does not drop back, but the tensile strength does.

The president stated that it was claimed by some engineers that the best way to find the strength of cement was by breaking it rather than by pulling it apart.

Regarding methods of burning, Mr. E. A. Wallberg said that with continuous burning kilns difficulty had been found in controlling the draft, but this had been remedied by the introduction of fans. Most manufacturers, however, were using rotary kilns.

Mr. E. J. Philip brought up the question of setting in cold weather. He mentioned instances where work had been done in winter and two or three years later had been found to be in good condition. He said that one of the most essential things was to use clean water, as dirty water would prevent setting. Proper mixing was also necessary.

The president thought it was a mistake to lay masonry in cold weather.

Mr. Haney's experience had been that where frequent thawing and freezing takes place there will be deterioration in the work, but not so in continuous cold weather. The quality of sand used was an important matter, and he thought a test of the mortar as well as of the cement should be made.

Mr. Scott said he had always wondered why the compressive strength of cement was taken not rather than the tensile strength. The president replied that the reason was that the transverse strength depends on the tensile, so in determining the tensile the transverse also is obtained.

Mr. Smith said that the transverse tests had not been satisfactory, owing to the fact that the least flaw in the transverse bar would greatly change the results and make the test of little value. Regarding the effect of frost, he referred to certain experiments at McGill University, Montreal, where the materials were kept in a temperature eleven degrees below zero and the test showed results equally as good as

those made in the laboratory. In Toronto, however, work done in cold weather had not been found perfectly satisfactory in all cases.

Mr. Chipman advocated the necessity of a short test for cement.

A cordial vote of thanks was tendered to Mr. Butler for his introductory address.

THE LATE A. CHIPMAN SMITH.

Mr. A. Chipman Smith, Director of Public Works for the city of St. John N. B., died in that city on January 23rd, aged sixty-two years. The late Mr. Smith was identified with civic affairs since 1874, when he was elected chief magistrate. From 1878 to 1882 he was chief of the fire department, and since that time Director of Public Works. Besides the offices enumerated, he held a number of other public positions during his career, among them being a place on the board of school trustees and on the Alms house and public hospital commissions. His long public career had earned for him a share of popularity and esteem that few public men enjoy. He was one of the founders of the St. Stephen's Presbyterian church.

DEBENTURES

Municipalities contemplating the issue of Debentures will find it to their advantage to communicate with

G. A. STIMSON & CO.
Investment Dealers

24 and 26 King St. W. TORONTO

M. BEATTY & SONS

WELLAND, ONT.

Dredges, Ditchers, Derricks and
Steam Shovels

of various Styles and sizes to suit
any work.

Submarine Rock Drilling Machinery, Hoisting Engines, Suspension Cableways, Hoisting Power Hoisters, Gang Stone Saws, Centrifugal Pumps for Water, Sand and Gold Mining, and other Contractors' Plant.

PORTLAND CEMENT

HIGHEST GRADE

SOLE AGENTS



Largest Makers in the World.

Bellhouse, Dillon & Co

30 St. Francois Xavier Street

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

"DYCKERHOFF" and "WHITE CROSS" Brands

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

MUNICIPAL DEBENTURES BOUGHT

ÆMILIUS JARVIS & CO. (Toronto Stock Exchange) 19-21 King St. West, TORONTO

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

WILLIS CHIPMAN

Hon. Grad. McGill University.
M. Can. Soc. C.E. M. 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

JOHN GALT, C.E. & M.E.

MEM. CAN. SOC. C.E. AND C.E.A., ETC.
(Late City Engineer of Ottawa and Chief Engineer
of the Water Works Dept.)
CONSULTING ENGINEER and EXPERT
NATIONAL TRUST BUILDING
2, King Street E., TORONTO.
Specialties—Water Supply and Sewerage.

ALWAYS IN STOCK

PIG LEAD, PIG TIN AND SOLDER

Syracuse Smelting Works, Montreal, P.Q.

RODERICK J. PARKE

A. M. American Institute E. E.
CONSULTING ENGINEER
Design and Superintendence of:—Electric Railroads,
Steam and Hydraulic Plants, Long Distance Power
Transmissions, Municipal Electric Lighting Systems,
Welding and Electric Light Processes.
Estimates Valuations
Reports for Financial Institutions
609-410 Temple Building, TORONTO, CANADA
Long Distance Telephone 8047.

THE CANADIAN PORTLAND CEMENT CO., LIMITED

Works: STRATHCONA, ONT. MARLBANK, ONT.
ST. LAWRENCE PORTLAND CEMENT COMPANY - MONTREAL
..... MANUFACTURER

“RATHBUN'S STAR” “BEAVER” “ENSIGN”

BRAND BRAND BRAND
For Prices Write THE RATHBUN COMPANY, Deseronto, Ont.
Sole Sales Agents

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.

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

Wm. Mahlon Davis

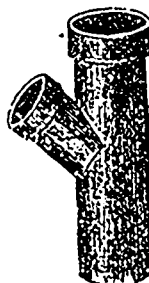
Graduate R. M. College.
M. Can. Soc. C. E. Ont. Land Surveyor.
CONSULTING ENGINEER
BERLIN, ONT.
Waterworks, Sewerage, Sewage Disposal,
Drainage and Reclamation of Land, Roadways.

W. & F. P. CURRIE & CO.

MONTREAL

Importers of

SEWER PIPES,
CHIMNEY TOPS,
VENT LININGS,
FLUE COVERS,
FIRE BRICKS,
FIRE CLAY,
WHITING.



PORTLAND CEMENTS,
HIGH GRADE ENGLISH
B. S. & Co. "ANCHOR",
ALSO OTHER BRANDS,
PLASTER OF PARIS,
BORAX,
CHINA CLAY.

R. E. SPEAKMAN, C.E.

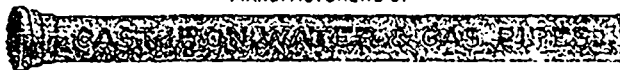
A. M. Inst. C. E., 1878.
CONSULTING ENGINEER
(LATE GALT & SPEAKMAN.)
Waterworks, Sewerage and Sewage Disposal.
Municipal Improvements.
Granolithic Pavements.
Electric Light Plants.
Drainage and Irrigation of Land.
Coal Handling Plant and Machinery.
Plans, Specifications and Estimates.
Construction and Valuations.
Canada Life Building - TORONTO

Montreal Pipe Foundry Co. Ltd.

SUCCESSORS TO
DRUMMOND, McCALL PIPE FOUNDRY CO. LTD

MANUFACTURERS OF

SPECIAL CASTINGS
FLANGE PIPE
BRANCHES
HYDRANTS
VALVES
VALVE BOXES



OFFICES
CANADA LIFE BUILDING

MONTREAL

Cast Iron Water and Gas Pipes, etc.

Londonderry, Nova Scotia

LUNDONDERRY PIPE FOUNDRY

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.

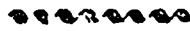


3 inches to 60 inches diameter.

For Water, Gas, Culvert and Sewer



HAMILTON ONT.



ARTIFICIAL STONE PAVEMENTS

SIDEWALKS A SPECIALTY

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

The Silica Barytic Stone Company of Ontario, Limited.

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

ORE AND STONE CRUSHERS

HOISTING MACHINERY RAILWAY SUPPLIES

BOILERS AND ENGINES Prices furnished on application

MARSH & HENTHORN, BELLEVILLE, ONT.

Prices of Building Materials.

PRESSED BRICK, Per M.

TORONTO PRESSED BRICK AND TERRA COTTA WORKS.

Table with columns for brick types (Red No. 1, Buff No. 1, etc.), quantities, and prices per 1,000. Includes prices for pressed brick, terra cotta, and roofing tiles.

BEAMSVILLE BRICK AND TERRA COTTA CO.

Table with columns for brick types (Red Peerless Facing, etc.), quantities, and prices per 1,000. Includes prices for various brick and terra cotta products.

COMMON BRICK, Per M.

Table with columns for brick types (Common Walling, Good Facing, etc.), quantities, and prices per 1,000.

STONE.

Table listing various stone products (Common Rubble, Large flat Rubble, etc.) with quantities and prices.

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

Large index table listing various construction services and companies under categories: Architects, Contractors' Plant and Machinery, Lime, Roofers, etc.

CREDIT VALLEY STONE.

Table listing stone products (Rubble, Brown Coursing, etc.) with quantities and prices.

LONGFORD STONE.

Table listing stone products (Rubble, Ashlar, etc.) with quantities and prices.

Table listing slate products (Slate, Terra Cotta Tile, etc.) with quantities and prices.

CEMENT, LIME, etc.

Table listing cement and lime products (Portland Cements, etc.) with quantities and prices.

HARDWARE.

Table listing hardware products (Cut nails, etc.) with quantities and prices.

Toronto, Montreal, CUT NAILS, FENCE AND CUT SPIKES.

Table listing cut nails, fence, and cut spikes with quantities and prices.

Lead Pipe:

Table listing lead pipe products with quantities and prices.

Galvanized Iron:

Table listing galvanized iron products (Adam's-Mar's Best, etc.) with quantities and prices.

Structural Iron:

Table listing structural iron products (Steel Beam, etc.) with quantities and prices.

ARCHITECTURAL VARNISHES

Table listing architectural varnishes with quantities and prices.