

Technical and Bibliographic Notes / Notes techniques et bibliographiques

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

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

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments:
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Continuous pagination/
Pagination continue
- Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
- Caption of issue/
Titre de départ de la livraison
- Masthead/
Générique (périodiques) de la livraison

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

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

CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL

PUBLIC WORKS • TENDERS •
ADVANCE INFORMATION •
AND MUNICIPAL PROGRESS

EVERY THURSDAY

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

Vol. 6.

OCTOBER 24, 1895

No. 38.

THE CANADIAN CONTRACT RECORD,

PUBLISHED EVERY THURSDAY

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, Publisher,

CONFEDERATION LIFE BUILDING, TORONTO.
Telephone 2362.

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.

Notice to Contractors

CANADIAN CONTRACTOR'S HAND-BOOK

A new and thoroughly revised edition of the *Canadian Contractor's Hand-Book*, consisting of 150 pages of the most carefully selected material, is now ready, and will be sent post-paid to any address in Canada on receipt of price. This book should be in the hands of every architect, builder and contractor who desires to have readily accessible and properly authenticated information on a wide variety of subjects adapted to his daily requirements.

Price, \$1.50; to subscribers of the CANADIAN ARCHITECT AND BUILDER, \$1.00. Address

C. H. MORTIMER, Publisher,
Confederation Life Building, TORONTO.



NOTICE TO CONTRACTORS

Tenders will be received by registered post only, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on SATURDAY, OCTOBER 26th, 1895, for the following work:

AN ASPHALT PAVEMENT

On Leader Lane, from Wellington Street to Colborne Street.

Specifications may be seen and forms of tender obtained on and after Saturday, October, 19th, 1895, at the office of the City Engineer, Toronto.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for, must accompany each and every tender, otherwise it will not be entertained.

The tenders must bear the bona fide signatures of the contractor and his sureties, or they will be ruled out as informal.

DANIEL LAMB,
Chairman of Committee on Works.

Committee Room, Toronto, Oct. 15th, 1895.

THE LARGEST DERRICK IN THE WORLD.

The largest derrick in the world is said to be that used in the granite quarry of Messrs. C. E. Tayntor & Co., at Barre, Vt., U.S.A. Stone says its mast is 99 ft. high, and is held by ten guys, each running out about 200 ft. to heavy anchorings. The boom can swing around a circle 142 ft. in diameter, and, like the mast, is built of Phoenix columns. The loads are hoisted by means of a steel wire rope $1\frac{1}{4}$ in. diameter, and the boom itself is handled with a similar rope of $\frac{3}{4}$ in. diameter. Over a mile of steel rope was used in rigging the derrick, and its weight, exclusive of the rope, is about 50,000 lb. It is operated by means of a hoisting engine, and so well are all parts designed that a pull of 300 lb. at the end of the boom will revolve the whole appliance when the boom is horizontal and loaded with thirty-seven and a half tons. The derrick has been tested with a load of fifty-seven and a half tons, although designed to carry only forty tons; and if the ropes were heavy enough, the remainder of the apparatus has sufficient strength to carry loads of eighty tons. It replaces a derrick which had a mast and booms of very large sticks of pine, but the largest which could be procured were unable to raise with safety the heavy loads that had to be handled occasionally in the quarry.

NEW COMPANIES.

WOODSTOCK, ONT.—Bain Waggon Company, applying for incorporation, capital \$250,000.

BELLEVILLE, ONT.—The Bay of Quinte Auer Light Co., applying for incorporation. The company is composed of Montreal, Toronto and Hamilton capitalists.

CALGARY, N. W. T.—Harold Gruner, Arthur Roiland and William Adams, of Okotoks, and Henry Meyer and John D. O'Neill, of Calgary, are seeking incorporation as the Okotoks Irrigation Company, with headquarters at this point. The proposed capital is \$10,000.

MONTREAL, QUE.—Lachine Rapids Hydraulic and Land Company; seeking incorporation; capital \$1,000,000, to generate power at Lachine Rapids, Que. Among the promoters are: Thos. Pringle, William McLea Walbank, George Bull Burland, Jeffrey Hale Burland and Samuel Carsley.

TOWN sewage does not, according to competent authority, affect iron pipes with lead joints so much as ordinary water. The greasy matter seems to form a coating on the inside of the pipes, giving the needed protection.

CONTRACTS OPEN

CHESLEY, ONT.—A new Catholic church is to be built here.

EGANVILLE, ONT.—A skating rink may be erected here this winter.

GLENCOE, ONT.—A combined council chamber and lock up will be built.

LINWOOD, ONT.—Several new buildings will be erected here next spring.

BRANFORD, ONT.—It has been decided to fill up Dead Creek, at a cost of \$1,500.

TILBURY CENTRE, ONT.—Essex capitalists propose establishing a flax factory here.

KEMPTVILLE, ONT.—An agitation is on foot for the construction of a government dock here.

GODERICH, ONT.—A stock company has been formed in town to operate a knitting factory.

WESTPORT, N. B.—A public wharf is to be constructed here, the Dominion and Provincial governments each bearing half the cost.

ARTHUR, ONT.—The Council are prepared to grant a franchise to light the streets by electricity. Address J. M. Roach, Village Clerk.

HALIFAX, N. S.—Preparations are being made to build a cold storage warehouse here. The promoters are the Dominion Cold Storage Co.

MAPLE HILL, ONT.—The Township Council of Brant are considering the advisability of building a bridge over the Saugeen river at this place.

MITCHELL, ONT.—The architect for Robt. Jackson's proposed house is D. G. Baxter, Stratford, it will cost \$40,000 and will be lighted by electricity.

MONKLANDS, ONT.—A new saw mill will be built by Macpherson & Schel, of Alexandria, on the site of the mill here which was burned a few months ago.

WOODSTOCK, N. B.—Work has been commenced on the construction of the sewerage system for the town. The work is being carried out by the council.

FREDERICTON, ONT. R. C. J. Dunn, architect, of St. John, will prepare plans for remodelling Mr. Blair's house here now occupied by Rev. Dr. Brecken.

BARRIE, ONT.—The Barrie and Allandale Electric Street Railway Co., has been incorporated, with a capital stock of \$50,000, to build a street railway in this town.

PORTAGE LA PRAIRIE, MAN.—The Presbyterian congregation are considering the erection next spring of a fine brick church, costing between \$15,000 and \$20,000.

CHATHAM, ONT.—The Board of Trade have decided to appoint a committee to report on the establishment of glass works. A Montreal gentleman is said to be the promoter.

EDMONTON, N. W. T.—Mr. W. T. Jennings, C. E., of Toronto, was in town

recently in connection with a scheme to build an electric railway from the station to the town.

FULLARTON, ONT.—Louis Seebach intends building an addition to his saw mill. A Shellenberger is making preparations to build a bank barn and Louis Kreis a brick house.

OTTERVILLE, ONT.—The municipal council of the township of Middleton has passed a by-law to raise \$1,483 for deepening, widening and extending the Little Otter Creek drain.

COLLINGWOOD, ONT.—The Presbyterian church here is to be enlarged.—The Council has given notice of its intention to lay a stone sidewalk on Hurontario street, at a cost of \$2,178.

VANCOUVER, B. C.—H. H. Van Every is reported to have been offered a bonus of \$600,000 by the cities of Vancouver and New Westminster to construct an electric railway 15 miles in length.

CHATHAM, N. B.—James Hackett, Thomas Gower and Wm. Jardine are making preparations to rebuild their stores. It is also reported that the Gillespie foundry will be rebuilt.

STRATFORD, ONT.—A by-law has been carried to provide \$30,000 for a trunk sewer.—The contract of supplying Mrs. Hugh Nicholls house with plate, stained and leaded glass, grates, mantels, etc., is still open.

BELLEVILLE, ONT.—Whole or separate tenders are invited up to the 30th inst., addressed to C. E. Bell, Secretary Women's Christian Association, for the erection of an addition to the Belleville Hospital. Plans may be seen at the office of J. L. Biggar.

ST. THOMAS, ONT.—The directors of the St. Thomas Street Railway Co., last week went over the proposed routes of the electric railway with a committee of the City Council. It is hoped to commence construction in the near future.

TAVISTOCK, ONT.—D. G. Baxter, architect, of Stratford, is calling for tenders for the erection of J. J. Wettlanfer's new hotel, to replace the Progress house which was burnt recently. It will be 60 x 74 feet, 4 stories high with electric hoist and other modern improvements.

VICTORIA, B. C.—The directors of Jubilee hospital have decided on the erection of an operating theatre, and a committee composed of Messrs. Byrnes, Shotbolt and Dwyer have been appointed to secure plans and select a site. The building will cost about \$3,500.

WINNIPEG, MAN.—The Brandon and South-western Railway Company will apply to Parliament for an extension of time in which to complete their line.—The City Council has given notice that a sewer will be constructed on Nena street, from Logan ave. to Fonseca street, at a cost of \$2,100.

WOODSTOCK, ONT.—The Woodstock Curling Club will erect a new rink at once. The building will cost \$5,000.—At the road convention held in this town lately, Mr. D. R. Ross advised the County Council to buy up all the toll roads and replace the cheap bridges thereon with substantial ones.

WATERLOO, ONT.—The Council is considering the question of submitting a by-law to raise \$50,000 to purchase the present waterworks plant and fit it up to run without any connection with the Berlin system. This would necessitate the erection of a new engine and pump houses, and a water tower.

QUEBEC, QUE.—F. X. Berlinguet, architect, is preparing plans for a large residence to be erected on the Grande Allée for the Hon. F. Langelier.—Building permits have been granted as follows: Mrs. Trestler, cor. O'Connell st. and St. Augustin st., alterations; E. Grenier, Bay-

ard st., alterations; T. Morrissette, Fleury st., brick veneering.

VERSCHOYLE, ONT.—Tenders for the construction of the Reynolds Creek Drain in the townships of Dereham and North Dorchester, will be received by Alex. Ball, municipal clerk, up till noon of Monday, the 4th of November. Tenders will be received for the whole work or for either of the three sections.

LUNENBURG, N. S.—It is reported that parties have bonded the water power known as Bang's Falls on the Medway river, and propose to erect two or three pulp mills and build an electric railway to Port Medway for the purpose of carrying the pulp to a port of shipment. An engineer has recently been examining the route.

PERTH, ONT.—The statement made in our last issue that the proposed waterworks scheme has been abandoned, the company forfeiting their deposit, was an error, as the time limit granted for construction will only expire on the 1st of August, 1896, and we are informed that the work will be completed before that date.

WINGHAM, ONT.—The proprietors of the Wingham flour mill propose installing a new engine.—The Union Furniture Co., will erect this fall, in connection with the buildings in course of erection, a two-story warehouse 40 x 100 feet, to cost \$3000.—The Council contemplate building a sewer 2000 feet long, down Josephine street. The erection of a ward school will also be undertaken shortly.

LONDON, ONT.—Superintendent Moore has reported to the Water Committee that it would cost \$2,700,000 to construct storage ponds along the lower stratum, capable of storing 450,000 gallons of water, in order to improve the waterworks system. A special meeting is to be held to consider the report.—Frank Robinson has taken out a permit for a two-story brick house on Horton street to cost \$1,200.

RAT PORTAGE, ONT.—The Ontario Government has made a grant of land for a hospital site.—Mr. Rutherford, chief engineer of the Canadian General Electric Co., of Toronto, recently made an inspection of the electrical possibilities of this place, visiting the Keewatin Power Company's dam, the Citizens Electric power house, the Reduction works, for which an electrical transmission plant of 100 horse power to run the mill is wanted and the sultana mine.

SCHOMBERG, N. B.—The construction of an electric railway from this place to connect with the Grand Trunk in either King, Aurora or Newmarket, which has been agitated for some time, seems now likely to be carried out, a Scotch company of good financial standing having taken hold of the matter. Recently a surveyor, engineer and a prominent railway contractor went over the proposed routes, with a view to deciding on the most suitable one, but as yet no decision has been made public.

ST. CATHARINES, ONT.—The City Council have passed a resolution asking the Government to grant letters patent to the Lincoln Street Railway Traction & Light Company. It is supposed to be the intention of the company to convert the Niagara Central railway into an electric road and extend it to Beamsville, there to connect with the H. G. & B. line. The parties asking incorporation are Messrs. William Wilson, George Palmer, R. H. Hill, H. A. King, George E. Patterson and Dr. Oille.

RAT PORTAGE, ONT.—The by-law to raise the sum of \$60,000 for the construction of a waterworks system for the town will be voted on by the ratepayers on the 14th of January next. The cost of the system as estimated by Mr. Wm. Kennedy, jr., C. E., is \$47,000, itemized as

follows: steam pumping plant (duplicate compound condensing engines and boilers) capacity 1 1/2 million imperial gallons per 24 hours, \$5,000; engine and boiler house with engineers residence, \$4,000; pipe system including intake pipe, 500 feet long by 12 in. diameter, also crossing Lawrenson's Creek, hydrants and stop valves, \$30,000; separate pipes \$4,000; screening or filtration, \$4,000.

MONTREAL, QUE. Tenders are now being received for the plumbing work in connection with the new Canada Life Assurance building.—It is stated that the officials of the Grand Trunk railway have decided on the purchase of additional rolling stock. The equipment of the line west of St. Clair is to be improved.—The Road Department has given notice that it is proposed to construct a sewer on Cathcart street, from west of University street to Union avenue.—The Grand Trunk Railway is inviting tenders until the 5th of November for the supply of firewood required by the company for one year.—Theo. Daoust, architect, is preparing plans for a girls academy for the new parish of St. Elizabeth.

ST. JOHN, N. B.—The Dominion Cold Storage Co. desire the city to grant a free site and exemption from taxation on a proposed cold storage warehouse. The council will consider the request at their next meeting.—The Dufferin hotel is to be enlarged early next spring. The extension will be made on the side facing King square, and will consist of a large brick annex. An elevator will be among the improvements.—G. E. Fairweather, architect, is receiving tenders until the 26th inst. for a brick building for Manchester, Robertson & Allison.—Extensive improvements are to be made to the Royal hotel during the next few weeks. A story is to be added to the main building, which will give 20 additional rooms, an electric elevator is also to be put in.

HAMILTON, ONT.—The opinion is held by architects and builders that next spring will witness an improvement in the building trade in this city. There are few vacant houses in the south and west end, which, it is believed will necessitate the erection of new dwellings next season, while houses will have to be erected to replace the buildings torn down along the line of the T. H. & B. railway.—The scheme proposed by Engineer Kuichling of Rochester, for the disposal of city sewage is not likely to be adopted, owing to the cost of the work. His plan is to intercept the sewers, and collect and concentrate the sewage of the entire city at some point between Wellington and Wentworth streets, and erect a pumping house to pump the sewage through a 36-inch pipe out into the bay 5,000 or 6,000 feet. He estimated the cost at \$270,000, made up as follows: interception of sewers, \$130,000; pumping station, \$75,000; discharge pipe, \$65,000. As the east end sewer has caused the greatest trouble, Mr. Kuichling recommended that if the Council did not desire to undertake the above work, the sewage at this point might be pumped into the Ferguson avenue sewer, at a cost of \$15,000.—Building permits have been recently granted as follows: Wm. Stewart & Son, completion of the T. H. & B. station, cost \$12,000; Thomas Allen, two two-story brick dwellings, cor. of Peter and Pearl street, cost \$2,400.

TORONTO, ONT.—The Grand Trunk Railway Co. has petitioned for a granite and concrete sidewalk on the south side of Front from York to Simcoe streets.—Ald. Rowe has given notice that the Fire and Light Committee consider the advisability of putting a steam fire engine in the Dundas street firehall.—An effort is being made to have the lower end of Jarvis street, from King to Queen street, repaved with macadam, and it is probable

the work will be carried out at once.—It is stated that a sanitarium for consumptives, in connection with the Parkdale sanitarium, will be erected at Deer Park next spring.—Ald. Davies has given notice that at the next meeting of the City Council he will move that a deputation go to Ottawa to support the application for a grant towards the construction of the James Bay railway.—The vote on a by-law to provide funds for the construction of a tunnel across the bay has been postponed until a later date. It is expected that Mr. Mansergh, C. E., who is to report on the waterworks system, will arrive from England early in November, and as he may not favor the construction of a tunnel, the vote has been consequently postponed.—Building permits have been granted as follows: S. Pears, 9 Pears ave., pr. s. d. 2 story bk. dwellings, 13 and 15 Pears ave., cost \$1,600; Toronto Electric Light Co., 2 story stable, s. side Esplanade st., cost \$1,000.

OTTAWA ONT.—The Board of Works have sent a petition to Council in favor of erecting a bridge across the canal opposite Somerset street, and a deputation will probably be appointed by the Council to interview the government on the matter.—A company is applying for incorporation to build a railway from Port Churchill, on Hudson Bay, via Prince Albert to Calgary.—E. A. D. Morgan, on behalf of the South Shore Railway Co., last week applies to the Railway Committee of the Privy Council for approval of plans of a bridge over the Richelieu river at Sorel. A decision will be given this week.—Tenders are invited by R. J. Davidson, Chairman Water Committee until Tuesday, the 29th inst. at noon for the supply of 92 new wheels, four new steel tanks, and the painting of 23 wagons required by the Street Sprinkling Department.—The Ottawa Auer Light Co. has applied to the Ontario Government for incorporation, the amount of the capital stock to be \$30,000. The company propose to erect and operate works in this city for generating and producing electric light and heat for illuminating and heating purposes and among the promoters are Mr. Granger, manufacturer, of Montreal, W. S. Thompson, of Toronto, and W. T. Andrews, of Hamilton.—Application will be made to Parliament for the incorporation of the Hudson Bay and Pacific railway, to traverse by steam or electricity from Hudson Bay to Edmonton, Alberta.—The Nipissing and James Bay Railway Company will ask Parliament at the next session to extend the time for commencing the line.—Application has been made to Parliament by Howland, Arnoldi & Bristol, barristers, of Toronto, to incorporate the Canadian Electric Railway & Power Co., which proposes to build an electric railway from Montreal to Windsor, via Brockville, Kingston, Belleville, Toronto and London with power to build a branch to Suspension bridge and branch lines radiating from any point on the main line not more than 25 miles. The company also ask permission to build electrical works and distribute electricity.—The waterworks Committee is again considering the question of increasing the pumping apparatus.

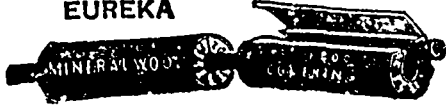
FIRES.

A dwelling at Orillia, Ont., owned by William Peard, was burned last week. Partially insured.—The residence of R. N. Sully, of Cascades, Que., on the Gatieneau river, was burned a few days ago. The loss is placed at \$1,500, partially covered by insurance.—The house of W. J. Rees and the brick store owned by M. Richardson, at Flesherton, Ont., have been destroyed by fire.—S. B. Lossing's woollen mill at Otterville, Ont., was consumed by fire on the 17th inst. Loss \$4,000; no insurance.—Six houses at Windsor, Ont., were destroyed by fire on

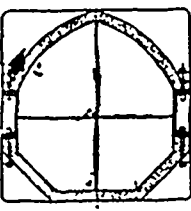
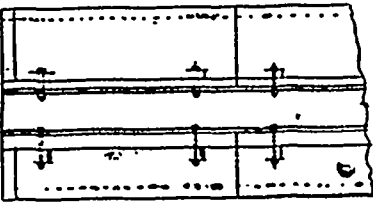
Monday last.—The Albion hotel and the block from South street to Kingston street, Goderich, Ont., were consumed by fire on the 20th inst. The loss is about \$12,000, mostly covered by insurance.—At Hensall, Ont., on the 18th inst., a flax mill and two barns owned by Geo. McEwen and the Beverley house and stables were destroyed by fire. The loss is heavy.—Desy & Lacouture's saw mills at Sorel, have been burned.—A storehouse and several small buildings belonging to Gowans, Kent & Co., crockery merchants, Winnipeg, were gutted by fire recently. Loss \$5,000.—The Hub Hotel at Napanee,

Ont., owned by Mr. Thompson, has been burned. Loss, \$2,000, insurance, \$1,200.—The Queen's hotel on Stewart street, Hamilton, owned by Antoyne Koch, was destroyed by fire on Tuesday last.—The Nichol block on Main street, Granby, Que., has been burned. Loss, \$8,000; insurance, \$6,200.—W. W. Robinson's residence at Victoria Harbor, Ont., was burned on the 22nd inst. Insured.

John Ellison, contractor, of Port Stanley, Ont., is reported to have assigned to A. J. Clarke.

EUREKA  **MINERAL WOOL**
SECTIONAL
STEAM PIPE and BOILER COVERING
Gives Dry Steam at long distances without loss of power.
ASBESTOS GOODS & ENGINE PACKINGS
EUREKA MINERAL WOOL & ASBESTOS CO., - 124 Bay St., TORONTO

HERCULES INDESTRUCTIBLE CULVERT 20 per cent. more water-way than circular form.
Unrivalled for Strength, Durability, Cheapness.
Made in sizes of 20 in., 24 in., 30 in., 3 ft., 4 in. and 5 ft.
Write for prices to **EDWIN W. SMITH**
344 Garth St., 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, LTD.
Head Office: Ingersoll, Ont.
WALTER MILLS, General Manager

GEO. WHITE - FRASER
C.E., D.T.S., A. AM. INST. ELEC. ENG.
CONSULTING
ELECTRICAL ENGINEER
Electric Railways and Electric Light.
SPECIALTY: Specification and Superintendence of MUNICIPAL PLANTS.
18 Imperial Loan Building - TORONTO

WILLIS CHIPMAN, B. A. Sc.
M. Can. Soc. C. E.; M. Am. Soc. C. E.;
M. Am. W. W. Ass'n.
CIVIL AND SANITARY ENGINEER
Water Works - Sewerage
Sewage Disposal
103 BAY STREET - TORONTO.

E. GARL BREITHAAPT
CONSULTING
Electrical Engineer
ASSOC. MEM. AM. INST. E. E.
Electric Lighting and Railway Work  **BERLIN, ONT.**

J. McDOUGALL, C. E.,
ENGINEER OF THE COUNTY OF YORK
GENERAL MUNICIPAL ENGINEER
Consulting Engineer for Municipalities in regard to Electric Railway and other Franchises.
Specialties: Bridges, Foundations, Electric Railways, and Roads. Surveys made; Plans, Specifications and Agreements prepared, and work superintended.
COURT HOUSE, - TORONTO.

JOHN GALT, C.E. & M.E.
(Member Can. Soc. C. E.)
Consulting Engineer and Expert
Specialties:
Water Supply and Sewerage, etc.
Electric Power, Lighting, Railways, etc.
Offices:
Canada Life Building - TORONTO

CHANGE OF ADDRESS
ALAN MACDOUGALL
M. CAN. Soc. C. E. M. INST. C. E.
CIVIL AND SANITARY ENGINEER
ABERDEEN CHAMBERS,
35 East Adelaide St. - TORONTO
Ne phone Number, 1252.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

CONTRACTS AWARDED.

WOODSTOCK, B. N.—The town have sold to W. A. Lockhart, of St. John, \$10,000 debentures.

MAPLEWOOD, ONT. The contract for enlarging the Maplewood drain has been awarded to Alex. Anderson.

MORRISBURGH, ONT. - B. G. Wickware has received the contract for building the Aberdeen skating rink

MEAFORD, ONT.—Hunter Bros., of Kincardine, are building over the Big Head River here a steel bridge on iron piles.

WHITECHURCH, ONT.—The Presbyterian church here is being supplied with glass by the Dominion Stained Glass Co., Toronto.

LISTOWEL, ONT.—The Hobbs Mfg. Co., of London, have the contract for supplying plate glass for the new MacDonald block on Main street.

GANANOQUE, ONT.—The contract for laying a water main from King street to the High School has been awarded to R. McCulloch, at \$850.

VICTORIA, B. C.—The contract for putting in the electric wiring of the new parliament buildings, has been awarded to Cunningham & Hinson, of this city.

LONDON, ONT.—The contract for the electric light wiring of the Dufferin ave. Methodist church has been awarded to the Rogers Electric Co., of this city.

ST. STEPHEN, N. B.—Beateay & Lord, of Carleton, have received the contract for rebuilding the Todd wharf at this place, recently acquired by the C. P. R.

TORONTO, ONT.—John Ritchie has been awarded the contract for plumbing and steam heating of the Dairy School at Strathroy, Ont., for the Ontario Government.

CORNWALL, ONT.—Clark & Connolly have sub-let the contract for the River Aux Raisin drainage in the township of Osnabruck, to W. J. Brennan, of this place.

HALIFAX, N. S.—A contract has been awarded to James Carmichael to build a house and shop on Pleasant street for Wm. Barclay. The plans were drawn by Thos. Craven.

STRATFORD, ONT.—The contract for improving the Western drain in North Easthope has been let to Messrs. Crowley & Pigeon, of Sebringville, at \$2,084.—The Hospital Management has awarded the contract of supplying the hospital with fire escapes to the Stratford Bridge & Iron works.

OTTAWA, ONT.—The following tenders were received by the Board of Works for building sewers on St. Patrick, Charlotte and Cobourg streets: T. McLaughlin, \$8.23 for earth and \$32 for rock; J. J. Sullivan, \$6.10 and \$20; C. McDougal, \$5.80 and \$18; P. Burns, \$4.75 and \$20. The contract has been given to P. Burns.

ST JOHN, N. B.—J. E. Fitzgerald, of this town, has the contract for heating apparatus for the Barker house, Fredericton.—B. Mooney & Sons have been awarded the contract for building the new nail works. They will consist of two buildings, 120x35 feet, of wood, with brick foundations, and a boiler and engine room.

MONTREAL, QUE.—The contract for heating and ventilating the Canada Life Assurance Company's new building has been awarded to the Bennett & Wright Co., Ltd., of Toronto.—G. A. Monette, architect, has awarded contracts for a residence on St. Antoine street for P. O. Tremblay as follows: masonry, Ouimet & Labelle; brickwork, Mr. Morache; carpenter work, J. Hamelin, other trades will be let later on.

Arthur Arter, in the paint business at Ottawa, is reported insolvent.

The announcement is made of the assignment of J. A. Torney, plumber, Ottawa, with liabilities of \$4,000 and assets something over \$2,000.

The suit brought against Poulin & Fitzpatrick, contractors on the O. A. & P. S. railway, by T. T. Richards, of Toronto, in which the plaintiff claimed \$16,300 as monies due and claims for damages, was dismissed in Toronto Saturday, with costs to the defendants.

DEBENTURES PURCHASED

Municipalities issuing debentures, no matter for what purpose, will find a ready purchaser by applying to G. A. STIMSON, 9 Toronto Street, Toronto.

Any assistance required in computing calculations in connection with sinking fund, etc., will be gladly given. N.B.—Money to loan at lowest rates on first mortgage.

Imperial Trusts Company of Canada
39 CHURCH STREET, TORONTO

Capital, \$400,000.
The Company is ready at all times to purchase MUNICIPAL DEBENTURES, and has always such Securities on hand for sale. Allows 4% interest per annum on money, and takes charge of Sinking Funds on special terms. J. S. LOCKIE, Manager.

The London and Canadian Loan and Agency Co., Ltd.

Capital, \$5,000,000.00.
MUNICIPAL DEBENTURES PURCHASED.
MORTGAGES PURCHASED.
MONEY TO LOAN AT CURRENT RATES.
103 Bay St., Toronto. - J. P. KIRK, Manager.

DEBENTURES PURCHASED.

WE will pay the highest price for MUNICIPAL DEBENTURES. We tender our services to those not having books to make for them the calculations necessary when issuing debentures payable in annual instalments. JEMILIUS JARVIS & CO. (Member Toronto Stock Exchange), 23 King St. W., Toronto.

EUREKA CONCRETE (=====
====) PAVING COMPANY

FOR SIDEWALKS,
STABLE FLOORS,
CELLAR FLOORS,
BREWERY FLOORS, ETC

A. GARDNER & CO.

17 Yonge St. Arcade - TORONTO
Telephone 2147

W. McNALLY & CO.

Building and Contractors' Supplies

SEWER PIPES & PORTLAND CEMENTS

PATENT WALL PLASTER—The hardest, quickest drying and cheapest material made.

Corner McGill and Wellington Streets, MONTREAL

THE THREE RIVERS IRONWORKS CO.  
THREE RIVERS, P. Q.

Cast Iron Water and Gas Pipes

of best quality, from 2 inches in diameter.

HYDRANTS, VALVES and GENERAL CASTINGS.

Drummond McCall Pipe Foundry Company,
MONTREAL

MANUFACTURERS OF

CAST IRON WATER AND GAS PIPES

WORKS: LACHINE, QUE.

PRICES ON APPLICATION.

Cast Iron Pipe • Special Castings

HYDRANTS AND VALVES

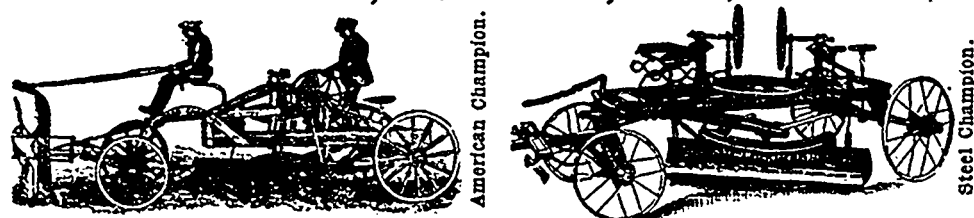
MANUFACTURED BY

THE WM. CLENDINNENG & SON CO., Ltd.

Correspondence solicited.

Montreal and St. Henry.

THE COPP BROS. CO., LTD. Hamilton, Canada, Manufacturers of both these Road Machines.



THE G. & J. BROWN MFG. CO.

Railway and Contractors' Plant.

BRIDGE BUILDERS

BELLEVILLE, ONT.

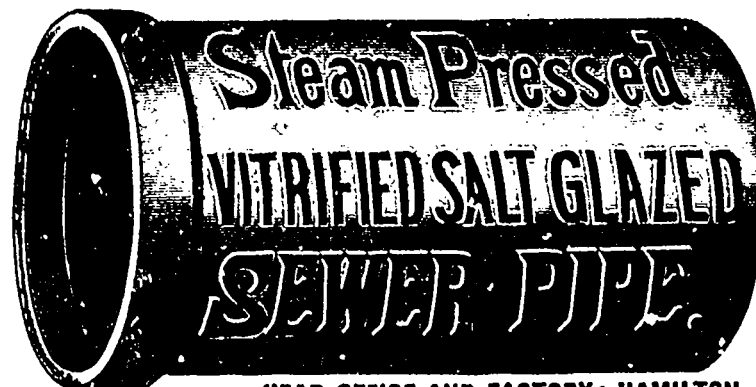
MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

Paving Granite

Granite Sets for Street Paving.
CURBING cut to any shape ordered.
Quarries, St. Philippe d'Argenteuil, P. Q.
Address all communications to
JOS. BRUNET - COTE DES NEIGES, MONTREAL

MERRIFIELD & WESTCOTT . . .
ENGINEERS and CONTRACTORS
— FOR —
WATER WORKS AND GAS PLANTS
269 Front Street East TORONTO.

HAMILTON AND TORONTO SEWER PIPE CO.



— FOR —
SEWERS,
CULVERTS
AND
WATER PIPES.
INVERTS
Fire Brick Sowers
Write for Discounts.

HEAD OFFICE AND FACTORY: HAMILTON, CANADA.

LAW BROS. & Co.

FOUNDERS AND MACHINISTS

OTTAWA, ONT.



Hydrants
Valves
Waterworks Supplies
Specials

Also CASTINGS of every description.

THE STANDARD DRAIN PIPE CO.

OF ST. JOHNS, P. Q., (LIM.)



Manufacturers of
Salt-Glazed
Vitrified
SEWER
PIPES

Double Strength
Railway Cul-
vert Pipes,
Inverts, Vents,
AND ALL KINDS OF FIRE CLAY GOODS.

STEAM AND POWER

FOR ALL DUTIES



NORTHEY Co.
LTD.

TORONTO, ONT.

THE LAURIE ENGINE CO., MONTREAL
Sole Agents for Province of Quebec.

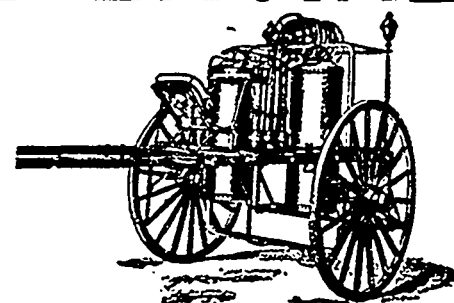
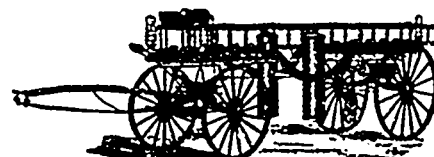
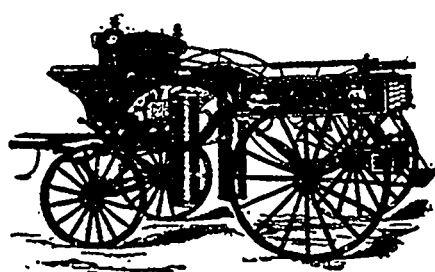
Kingston Chemical Fire Engine Co.

— KINGSTON, ONT. —

MANUFACTURERS OF THE

WILSON
PATENT

CHEMICAL FIRE ENGINE



This machine is the most powerful fire fighter. It has two cylinders, 40 gallons capacity each. The combination of chemicals will not freeze, renders material with which it comes in contact non-inflammable, and will not corrode when not in use. For full particulars, write to the Head Office of the Company at Kingston.

D. D. WILSON, Managing Salesman.

JOHN BREDEN, Sec.-Treas., KINGSTON, ONT.

For reference address **H. YOULDEN**, Chief Fire Department, Kingston.

MUNICIPAL DEPARTMENT

THE OXYGEN SEWAGE - PURIFICATION SYSTEM.

The town of Halifax has had the honour of being the first community in England to give a trial to the oxygen system of dealing with sewage, which has hitherto, says the Contract Journal, only been in active operation in certain public buildings in Ireland. The principle of the process, which is the joint invention of Mr. W. E. Adeney, F. I. C., curator in the Royal University of Ireland, and Mr. W. Kaye Parry, M.A., A.M.I.C.E., M.I.C.E.I., lies in the utilisation of the action of specific micro-organisms. The theory of the authors of the scheme is shortly this. These saprophytic organisms are those which live on dead organic matters, the germs of which occur practically everywhere—in air, in water, and in ordinary soil. They will quickly grow and multiply in water-carried sewage, and these micro-organisms will bring about the oxidation of sewage matters and change them into harmless forms, provided that two conditions essential to their healthy life process are maintained in the liquid sewage during their activity. These conditions are—a continuous and ample supply of air to all parts of the said liquid, to afford the necessary oxygen to the organisms during their life processes, and also the preservation of the liquid in a neutral or slightly alkaline condition during the activity of the organisms. These conditions being maintained, the organic matters contained in water-carried sewage undergo two distinct stages of chemical change. During the first of these stages the organic matters suffer a complete alteration, and are mostly entirely converted into carbonic acid, ammonia, and water, only a small quantity of organic matter remains in solution at the completion of this stage, and it has been oxidised and so much changed in character from that of the matters originally present in the sewage that it is no longer of danger to health; it is, in fact, similar in character to peat and to the humus of ordinary soil. The next stage of change which follows proceeds much more slowly. During its progress, the ammonia originally present in the sewage, and that formed during the first stage of change, is gradually converted into nitric acid. Such is the theory of the inventors as it is proposed to put it into permanent practice in Halifax. Up to a certain stage the purifying process runs on the lines of the ordinary sewage-farm system, but, instead of the liquid sewage being filtered over land, it is conveyed to another tank and treated with nitrate of soda, the third and last of the chemical processes. This tank is cylindrical in shape, and built on the Dortmund principle. In its center is a pipe, down which the liquid passes, the

object being to allow of the subsidence of any solids in the water as it again rises to the surface. The use of the nitrate of soda is, it is stated, to supply oxygen to these micro-organisms in the liquid which will enable them to exist until they finally complete their work of destroying by the process of oxidation and reduction to simple, harmless substances of whatever sewage may remain in the water after its treatment. Briefly set forth, the advantages claimed for the oxygen system are—a perfectly harmless effluent, obtained without the expense of land treatment or filtration; less sewage sludge, and a better and more portable manure; great economy with regard to chemicals employed; simplicity and inexpensiveness of the purification process; smallness of the space occupied by the works, and absence of filter-beds; the dispensing with, in many cases, the pumping required by any other process; comparatively favorable capital outlay on works; facilities for dealing with flood water, the liquid accommodating itself automatically to the great variation in the rate of flow; the facility for future development to meet the demands of increasing population; an entire absence of offensive odors; and the adaptability of the system to the purification of the sewage of large and small centers of population no less than to institutions and isolated buildings.

STORM WEATHER.

In a recent paper Mr. Arthur N. Talbot impressed upon the Illinois Society of Engineers and Surveyors the necessity of more careful and systematic study of storm-water difficulty in connection with sewerage schemes. The amount of storm water depends upon four principal conditions—amount of rainfall, character of surface and sub-soil, slope of surface and general inclination of whole drainage area, and position of the streams and shape of the district. Data as regards rainfall is most inadequate. As a rule it is deemed sufficient to record the monthly average, and probably the daily maximum. A rainfall of 6 inches in a day may give 3 inches in one hour, or even two inches in twenty minutes. In either case most sewers would be severely taxed. A heavy yearly average may be made up by a constant drizzle, while a very low yearly average may be made up by two or three tremendous downpours. Therefore a self registering rain gauge is a necessity to municipal engineers. After considerable study and observation the reader of the paper compiled all the rainfall records available, and drew up two curves, one being of rare and the second of ordinary rainfalls. He briefly summarises the results as follows: The equation of a rare rainfall is $y = \frac{6.0}{x \times 0.5}$, where y is the rate of rainfall in inches per hour for the duration of storm x expressed in hours. This rate is probably not exceeded once in fifty years. The equation of ordinary maximum is $y = \frac{1.75}{x \times .25}$, using the same nomenclature as before. Storms reaching values given by this equation will occur at

a given point two or three times in ten years, and so the equation is of great value for use in proportioning sewers. The whole rainfall does not reach the watercourses or sewers. Moreover as a rule, 60 per cent. of a downfall finally reaches the watercourse, only 40 per cent. will reach it in the time which it took to fall. It is safe to assume that in cities the flow will be 1 for roofs and 50 to 40 for streets, courts, etc. Suburban districts will give 30 to 40 of the rainfall if paved and sewered, but if only sewered and not paved probably not more than 20. The actual rate of rainfall causing the maximum discharge from a given district will be the rate of rainfall which may be expected for a time equal to that necessary for the storm water from the remotest part of the drainage area to flow to, and through the sewer to the point under consideration. The intensity of the maximum storm will be considerably less for a long area than for a square one, though topographical features may modify this. For an average district the ratio of the length in feet to the square root of the number of acres is from 300 to 360, for a compact district from 200 to 250, for a long district about 500. The formula of Mr. Math for determining the flow of storm water is much used in America. It is as follows: storm water in cubic feet per second per acre = $f \left(\frac{S}{R} \right) 1/5$. S is

the mean surface grade through the drainage area in feet per 1,000; R is the drainage area in acres; r the rate of rainfall in inches per hour "during the period of greatest intensity"; f a co-efficient ranging from .31 in rural districts and suburbs to .75 in well-built cities, with .62 as the mean value. But this formula, and those employed in Europe, do not take into account the shape of the area, which may often lead to mistakes.

THE DISPOSAL OF REFUSE IN BIRMINGHAM.

A very excellent example is given by the sanitary authorities of the city of Birmingham in the well systematized way in which the garbage of that great city is disposed of in such a way as least to endanger the public health. Mr. Shaw, in dealing with the subject in his "Municipal Government in Great Britain," gives a full description of the plan adopted in Birmingham. Here an especially designed ash-tub is supplied to each house for the reception of kitchen and other solid refuse, as well as ashes. The contents of these are removed periodically, and taken to one of the receiving stations, of which there are several, to all being assigned a position on one of the canal wharves. Here the coarser refuse is committed to furnaces, which number some fifty in all. Of the rest, of some a mixture is made, constituting a fertilizer which is promptly removed by means of the canal boats and sold to farmers, while for the most part it is turned into a dry-powdered fertilizer in special evaporating machines, worked by the heat generated by the burning of the coarse refuse. Of the latter, what remains after the action of the incinerators is a quantity of "clinkers," used for road mending and making and for concrete and mortar. The extensive canal system of Birmingham naturally is a great aid in the establishment of so complete an organization by the Health Department. Many boats are possessed by the sanitary authorities for the constant removal of the manufactured fertilizers.

**CENTRAL BRIDGE AND
ENGINEERING COMPANY,
(LIMITED)**

Peterborough, Ont.
WM. H. LAW - Manager and Engineer.
MANUFACTURERS OF

**RAILWAY AND HIGHWAY
BRIDGES**

Viaducts, Piers, Roofs Turntables, Girders
and Architectural Work.

CAPACITY: 5,000 TONS PER ANNUM.
G. N. REYNOLDS, Toronto Agency, North of
Scotland Chambers, 20 King St. W. Telephone 111.

Water Works

Fire Hydrants

Stop Valves
3" to 36"

BOILERS, TOWERS & C., ENGINES AND GENERAL WORK

JNO. PERKINS CO'Y

Toronto Engine Works TORONTO

DRAIN PIPES

CEMENT . . .

FIRE BRICKS

AND ALL KINDS OF

Builders' Supplies

F. HYDE & CO.

31 Wellington Street, - MONTREAL.

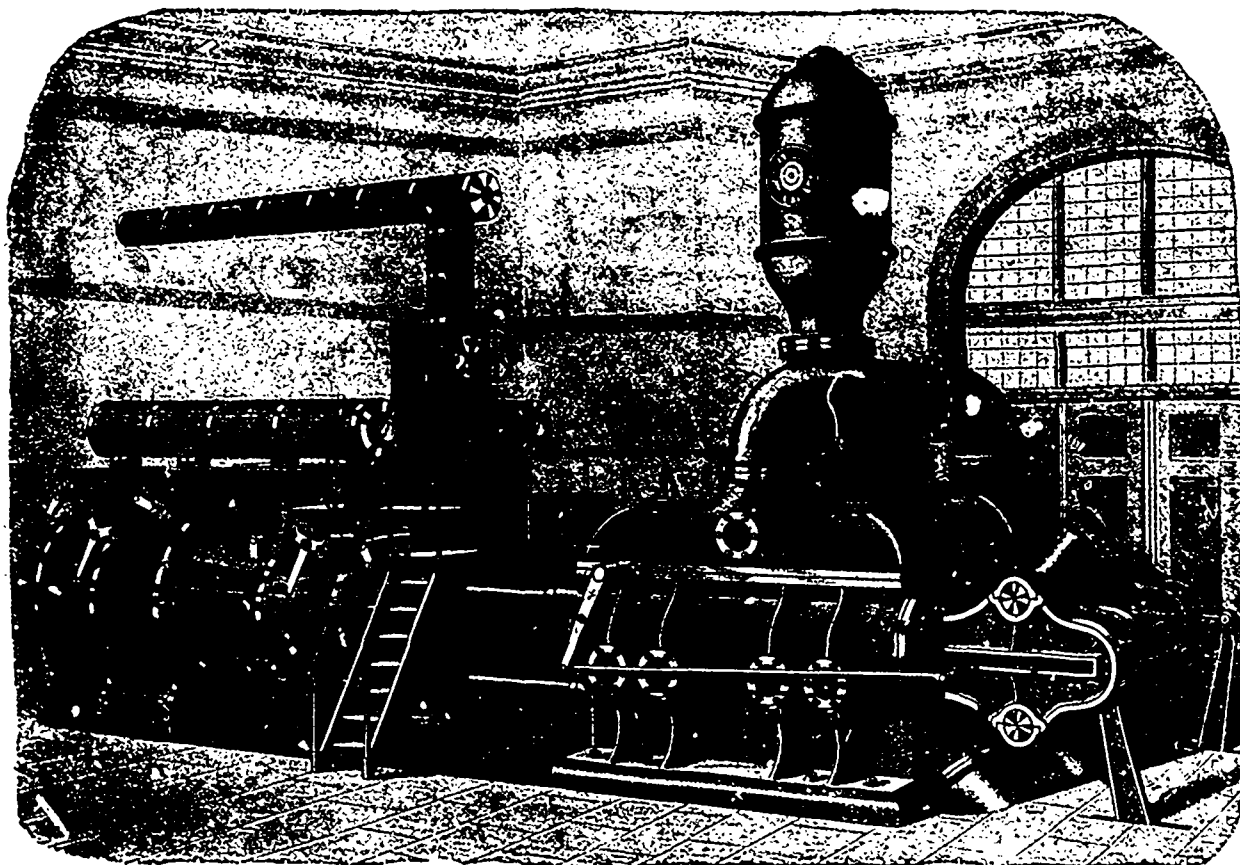
INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

Architects. Ontario Directory.... III Quebec Directory... ii	Contractors' Plant and Machinery Rice Lewis & Son.... IV	Heating. Clare Bros. & Co... v Clendinning & Son Co., Wm..... xiii Gurney Foundry Co... iv Ives & Co, H R..... xiv King & Son, Warden.. xi McClary Mfg. Co. xi i Ormsby & Co., A. B. . I Pease Furnace Co..... xiv Toronto Radiator Mfg Co..... iii	Reflectors Frink, I. P. xiii
Architectural Sculp- tors and Carvers. Holbrook & Molling- ton..... i Lamar & Metge . . . ii	Cements. Bremner, Alex..... v Currie & Co., W. & F. P. xiv Maguire Bros..... i Owen Sound Portland Cement Co..... v Rathbun Co., The.... II	Roofers Douglas Bros. iv Duthie & Sons, G.... iv Hutson, W. D..... iv Renne & Son, R..... iv Stewart, W. T..... iv Tucker & Dillon..... iv Williams & Co., H . . . iv	Sanitary Appli- ances Campbell & Purvis... II Toronto Steel Clad Bath & Metal Co..... viii
Architectural Iron Work. Dominion Bridge Co. I Chanteloup Mfg. Co. I	Art Woodwork Southampton Mfg. Co ix	Shingle Stains Cabot, Samuel . . . IV	Stained and Decora- tive Glass Castle & Son..... v Dominion Glass Co. . . v Elliott & Son..... v Hobbs Mfg. Co..... v Horwood & Sons, H.. v McCausland & Son... v M. Kerri's -tained Glass Works..... v Longhurst, H..... v Lyons, N. T..... v
Bricks (Pressed) Beamsville Pressed Brick Co..... i Burlington Pres'd Brick & Terra Cotta Co.. vi Dartnell, E. F..... xi Don Valley Pressed Brick Works..... x Port Credit Pressed Brick & Terra Cotta Co., Limited..... x	Builders' Supplies. Bremner, Alex..... v Currie & Co., W & F P xiv Clatworthy, Geo..... x Maguire Bros..... i Ontario Lime Associa- tion..... III Rice Lewis & Son.... IV	Legal. Denton & Dods.... III	Staircases and Stairing Metallic Roofing Co. xiii Pedlar Roofing Co... ix
Building Stone Dealers. Carroll, Vick & Co... vii Clark, Wm..... vii Dartnell, E. F..... xi Fish, C. E..... vii Hood & Son, Wm.... vii Turner & Brown.... IV	Boiler Covering Mica Boiler Cov. Co. viii	Mortar Colors and Shingle Stains. Cabot Samuel..... IV Maguire Bros..... i Muirhead, Andrew... i	Terra Cotta Rathbun Co., The.... II
Builders' Hard- ware. Rice Lewis & Son.... IV Vokes Hardware Co. xii	Cresote Stains Cabot, Samuel... . IV	Ornamental Plas- ters. Baker, J. D..... vi Hynes, W. J..... viii	Wall Paper and Ceiling Decorations Elliott, W. H..... vi
Church and School Furniture. Can. Office & School Furniture Co..... iv Globe Furniture Co.. iv Snider, J. B..... iv	Galvanized Iron Workers. Tucker & Dillon..... iv Douglas Bros..... iv Ormsby & Co., A. B. . I	Paints & Varnishes. Muirhead, Andrew... i	Wall Plaster A. Alastine Co., The... v Albert Mfg. Co.... . xii Hannaford Bros. Mfg. Co..... xii Nowell & Co. B. L... IV Rathbun Co., The ... II Vokes Hardware Co.. xii Windsor Plaster Co.. xii
	Grates and Tiles. Holbrook & Mollington i Rice Lewis & Son.... IV	Plasterers Hynes, W. J..... viii	Window Blinds Clatworthy, Geo... . x Seaman, Kent & Co.. iv
	Granite Brunet, Jos..... ii	Plumbers Ballantyne, James... ii Dourville, E..... ii	
		Roofing Materials Metallic Roofing Co. xiii Pedlar Roofing Co... ix	

JOHN McDOUGALL

• • Caledonian Iron Works • •



OFFICE:
Corner William and
Seigneurs
Streets,
MONTREAL

**HYDRAULIC
MACHINERY**

CONDENSERS

... AND ...

**WATERWORKS
SUPPLIES**

WATER METERS

METERS

for all services

MANUFACTURERS
OF

Machinery for Elec-
trical Work, etc., etc.
Boilers, Engines . . .
Forgings, Girders,
Castings, Shaftings,
Pulleys, Gearings,
Bearings, etc. . . .

AGENTS IN CANADA FOR THE

Famous Worthington Pumps

Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: In general hardware trade for the past week has been slightly smaller. The city trade in plumbers' supplies continues good, and an advance of from 10 to 20 per cent. on soil pipe is announced, while the country trade is steady. Cement is firm and moving freely, with quotations unchanged. Large shipments of glass are being received.

MONTREAL: A fair degree of activity is reported in hardware and paints and oils. Heavy iron and metals are still active. The arrivals of cement last week were 1,090 casks English and 4,490 Belgian, the demand being chiefly for small lots.

LUMBER.

CAR OR CARGO LOTS.

Table with columns for Toronto and Montreal prices for various lumber types like clear picks, Am ins., pickings, Am ins., etc.

VAID QUOTATIONS.

Table listing various mill cull boards and scantling prices for Toronto and Montreal.

B. M.

Table listing prices for various flooring and cladding materials like dressed, rough, undressed, etc.

BRICK—M

Table listing prices for various types of bricks like Common Walling, Good Facing, Sewer, etc.

Toronto, Montreal.

Table listing prices for Roof Tiles, Hip Tile, Ridge Tile, and various building bricks.

SAND.

Table listing prices for Per Load of 1 1/2 Cubic Yards.

STONE.

Table listing prices for various types of stone like Common Rubble, Large flat Rubble, Foundation Blocks, etc.

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

Table listing prices for various Ohio freestone types like Buff Promiscuous, Buff Dimension, etc.

SLATE.

Table listing prices for various slate types like Roofing, red, purple, untinting green, etc.

PAINTS. (In oil, lb.)

Table listing prices for various types of paint like White lead, Red lead, Yellow ochre, etc.

CEMENT, LIME, etc.

Table listing prices for various types of cement like Portland Cements, German, London, Newcastle, etc.

Toronto, Montreal.

Table listing prices for various types of Portland Cements and Hydraulic Cements.

HARDWARE.

Table listing prices for Cut nails, 5d and 6d, per keg.

CUT NAILS, FENCE AND CUT SPIKES.

Table listing prices for various types of cut nails and spikes.

FINE BLUED NAILS.

Table listing prices for fine blued nails.

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

Table listing prices for casing and box, flooring, shook and tobacco box nails.

FINISHING NAILS.

Table listing prices for various types of finishing nails.

SLATING NAILS.

Table listing prices for slating nails.

COMMON BARREL NAILS.

Table listing prices for common barrel nails.

CLINCH NAILS.

Table listing prices for various types of clinch nails.

SHARP AND FLAT PRESSED NAILS.

Table listing prices for sharp and flat pressed nails.

STEEL WIRE NAILS.

Steel Wire Nails, 75, 10 and 5 % discount from printed list.

Iron Pipe:

Table listing prices for various types of iron pipe.

Toronto, 6 1/2 % per cent. discount. Montreal, 6 to 6 1/2 % per cent. discount.

Lead Pipe:

Table listing prices for various types of lead pipe.

Galvanized Iron:

Table listing prices for various types of galvanized iron.

Structural Iron:

Table listing prices for various types of structural iron.