

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

Coloured pages/  
Pages de couleur

Covers damaged/  
Couverture endommagée

Pages damaged/  
Pages endommagées

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

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

Cover title missing/  
Le titre de couverture manque

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

Coloured maps/  
Cartes géographiques en couleur

Pages detached/  
Pages détachées

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

Showthrough/  
Transparence

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

Quality of print varies/  
Qualité inégale de l'impression

Bound with other material/  
Relié avec d'autres documents

Continuous pagination/  
Pagination continue

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

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

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

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.

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

Additional comments: /  
Commentaires supplémentaires:

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

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

# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF THE CONTRACTING INDUSTRY

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.

MARCH 7, 1895

No. 5.

## 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

### Pavement of Tracks on Avenue Road

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to eleven o'clock a.m. on SATURDAY, MARCH 9, 1895, for the following work:

On Avenue Road, track allowance between Bloor Street and Davenport Road, an asphalt pavement with scoria tooting.

On Avenue Road, from Davenport Road to C. P. Railway tracks, cedar blocks on concrete, with granite tooting.

Specifications may be seen and forms of tender obtained at the office of the City Engineer, Toronto, on and after the 2nd day of March, 1895.

A marked cheque payable to the order of the City Treasurer, for the sum of 2½ per cent. on the amount of the work tendered for, must accompany each and every tender, otherwise it will be ruled out as informal. The lowest or any tender not necessarily accepted.

DANIEL LAMB,  
Chairman of Committee on Works  
Committee Rooms, Toronto, Feb. 25, 1895.

## TENDERS FOR SUPPLIES

Tenders, marked "Tenders for Supplies," will be received at this office up to 5 o'clock, P.M., of MONDAY, THE 18TH DAY OF MARCH, prox., for furnishing the corporation of the town of Chatham with the following supplies for one year, from the 1st day of April, 1895.

VITRIFIED SEWER PIPE  
CEMENT AND CURBING STONE

Specifications for the above may be had on application to the undersigned.

The Council reserve the right to reject any or all tenders.

JOHN ISSIMAN,  
Town Clerk.

Town Clerk's Office,  
Chatham, Ont., Feb. 25, 1895.

## TENDERS

Separate or bulk Sealed Tenders delivered or sent in registered letter addressed to the undersigned, and endorsed "Tenders for Town Hall and Fire Station," will be received until March 15th next, inclusive, for all trades required in the erection and completion of municipal buildings and fire station combined, for the town of Carleton Place, according to plans and specifications to be seen at the Clerk's office, Carleton Place, or at the office of Geo. W. King, architect, Toronto.

Tenders will not be considered unless made on the forms supplied, and signed with the actual signatures of tenderers and their bondsmen.

An accepted bank cheque, payable to the order of A. R. G. Peden, Town Clerk, Carleton Place, for the sum of not less than 2½ per cent. on amount of tender, must accompany each tender, together with the signatures of two responsible parties who will go security for the full amount of the tender.

Cheques will be forfeited if the party declines the contract, or fails to complete the work contracted for, and will be returned in case of non-acceptance of tender. It is expected that town labor will be employed as far as possible.

The Council do not bind themselves to accept the lowest or any tender.

A. R. G. PEDEN,  
Town Clerk.

Carleton Place, Feb. 25th, 1895.



Sealed Tenders addressed to the undersigned, and endorsed "Tender for Hot Water Heating Apparatus, Wolseley, Assa." will be received until TUESDAY, 19TH MARCH, for the construction of a Hot Water Heating Apparatus at the Wolseley, Assa., Court House.

Plan and specification can be seen and form of tender and all necessary information obtained at this Department, and at the office of D. Smith, Winnipeg, Man., after Tuesday, 26th February.

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

Each tender must be accompanied by an accepted bank cheque, made payable to the order of the Honourable the Minister of Public Works equal to five per cent. of the amount of the tender, which will be forfeited if the party decline to enter into a contract when called upon to do so, or if he fail 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,  
E. F. E. ROY,  
Secretary.

Department of Public Works,  
Ottawa, 20th Feb., 1895.

Send for a copy of the second edition of the *CANADIAN CONTRACTOR'S HAND-BOOK*, containing 150 pages. Price, \$1.50; to subscribers, \$1.00.

## DRAW LIME KILN FOR SALE

With fine white limestone quarry; shipping facilities unsurpassed. Address Drawer 37, Warton, Ont.

## TENDERS WANTED

Propositions for sinking an artesian well or wells at the village of Alexandria, stating terms per foot of depth, will be received up to the 20TH DAY OF MARCH, 1895. Address to undersigned.

D. A. McDONALD,  
Reeve.

Alexandria, Feb. 21st, 1895.

## CONTRACTS OPEN.

IRON BRIDGE, ONT.—The Methodist congregation are preparing to erect a new church.

MOUNT FOREST, ONT.—The Council is discussing the construction of a system of waterworks.

DASHWOOD, ONT.—William Ball intends erecting a brick furniture ware room in the spring.

TRURO, N. S.—The question of establishing a poor house is being discussed by the town authorities.

PEMBROKE, ONT.—Charles McAllister is looking for a suitable site on which to erect a roller flour mill.

HUNTSVILLE, ONI.—It is stated that an electric railway will be constructed here one mile in length.

HILLSBURG, ONT.—A site has been purchased for a new church for St. Andrews' congregation.

DESERONTO, ONT.—The erection of a market building will be considered by the Town and County Councils.

ST. JOHN, N. B.—Two new stores are shortly to be erected on the corner of Queen and Wentworth streets by John Weatherhead.

RIVIERE DU LOUP, QUE.—The Temiscouata Railway Company are seeking power to extend their line to Berry's Bay, on the line of the Intercolonial railway.

GUELPH, ONT.—Tenders are invited until the 9th inst. for excavating, stone and brick work for three stores for Wm. Hearn. Plans may be seen at C. E. Howitt's office.

QUEBEC, QUE.—Mr. Tanguay, architect, has prepared plans for extensive new stores to be erected by the estate Chouinard next year on the site of the present Richelieu line offices.

EDMONTON, N. W. T.—Word has been received from Ottawa that an order-in-council has been passed locating the proposed bridge over the river at this place, and work will be commenced at once.

MEAFORD, ONT.—Tenders are invited by Geo. G. Albery, Town Clerk, on behalf of the corporation, until Friday, the 22nd inst. for the purchase of \$20,000 of water-works debentures, bearing interest at 5 per cent.

PORTAGE LA PRAIRIE, MAN.—A meeting of the ratepayers was held on the

25th inst. for the purpose of discussing the means and advisability of the town aiding the development of a water power on the Assiniboine river here.

**AMHERSTBURG, ONT.**—Tenders are invited by John A. Auld until Saturday next, the 9th inst. for the erection of cheese factory buildings on lot 44, concession 5, Malden. Plans may be seen at the office of the Amherstburg Echo.

**KINGSTON, ONT.**—A citizen has offered the sum of \$1,000 towards the erection of a Masonic hall at the corner of Clergy and Princess streets. Dr. K. N. Fenwick will have a surgical amphitheatre constructed at the General Hospital, at a cost of \$2,500.

**MIDLAND, ONT.**—Arrangements are being made for the construction of a dry dock here, which will have capacity to receive the largest vessels that sail on Georgian Bay. The dock will be 400 ft. long, by 50 ft. wide, with 16 ft. of water on the mitre sill.

**GANANOQUE, ONT.**—Hon. J. C. Patterson, of Ottawa, was in town last week in connection with the proposed removal of the drill shed to another site. No decision was arrived at, but it is anticipated that the old building will be sold and a new one built on the site to be chosen.

**LEAMINGTON, ONT.**—At the last Council meeting, Alex. Baird, Town Engineer, read his report on the cost of establishing a gas plant. The cost was placed at \$14,000, and a committee was appointed to prepare a by-law for submission to the ratepayers to raise the necessary funds.

**MEGANTIC, QUE.**—The congregation of Notre Dame, Montreal, have decided to open a branch convent of their institution at this place, and are conferring with the School Commissioners with a view to complete the final arrangements to enable them to build their new convent at once.

**CREDITON, ONT.**—Tenders are requested until the 15th of March for the erection of a bank barn on the Industrial farm, of the County of Huron, one mile from Clinton. Plans may be seen at the Queen's Hotel, Wingham, from the 9th to the 15th inst. Henry Eilber, Chairman Building Committee.

**LONDON, ONT.**—The Trustees of the Dundas Street Methodist church are asking for plans for a new building to be erected on the old site. Particulars may be obtained from C. J. Beal, Secretary.—In the annual report of the Fire Chief, presented at the last meeting of No. 3 Committee, the erection of a fire hall in the north end, and the purchase of a chemical engine and hook and ladder truck is recommended.—The prospects for a fairly good building season in this city are somewhat bright. In addition to the three new churches, for which the contracts will be let shortly, and which will necessitate an expenditure of about \$150,000, there will be an unusually large number of private residences erected. Already local architects have considerable work in hand.—Tile drains will be constructed on Dean street and Duchess avenue, at a cost of \$470 and \$2,380 respectively.

**HAMILTON, ONT.**—The Dominion Construction Company have the line of the Toronto, Hamilton and Buffalo railway from Brantford to this city on a fair way to completion, after which the company will proceed with the Welland branch, which it is expected will be completed before the close of the present year. The T. H. & B. and M. C. R. directors have decided to build a larger and better station in Hamilton than was at first proposed.—Plans are being prepared and tenders will shortly be called for the erection of a residence at Winona, for J. E. Vandeizer. It is to be built of pressed brick with brown stone facings. W. A. Edwards, architect.—The Council proposes to construct a 15 inch pipe sewer

on Sophia street, at a cost of \$812, and a 12-inch pipe sewer on Florence street, at a cost of \$550.—Building permits have been granted as follows: John Temple, two storey brick dwelling on Gore street, cost \$1,000; East Hamilton Improvement Company, brick station at the head of Wentworth street, cost \$1,100.

**WINNIPEG, MAN.**—The city Masons have succeeded in raising nearly \$9,000 for the proposed Masonic temple, and when another \$1,000 is raised the scheme will be an assured success.—Mr. S. Frank Peters, architect, has returned from a trip to Toronto, where he completed the details for rebuilding the block of the Western Canada Loan Company, and tenders for the work will likely be called during the present week.—Mr. Barry, of the Royal Oak hotel, contemplates erecting a new hotel building this spring.—The city invites tenders until 8 p.m. on Thursday, the 14th inst., for paving Main street from Point Douglas avenue with cedar blocks, asphalt, brick or stone. Tenders are to be addressed to J. C. Sproule, Chairman Committee on Works. The time for receiving tenders for electric street lighting has been extended to Tuesday the 12th inst.—The Y. M. C. A. are making an effort to pay off the debt of \$3,000 on their lot, Mr. Whittle having made an offer that as soon as the lot was paid for, the directors would proceed with the building.—The City Council will seek power to raise the sum of \$100,000 for the improvement of the Red River.

**OTTAWA, ONT.**—The Finance Committee of the Public School Board will recommend the erection of a new four-roomed brick school on Mutchmor street, and an addition to Elgin street school. The board has not the means to build another school in St. George's ward, but it is proposed that a suitable building be rented for a year, by which time the board will probably be in a position to build a new school in that ward.—Tenders are invited by E. F. E. Roy, Secretary Department of Public Works, until the 15th inst., for work to be done in widening the outlets of Lake Couchiching, according to a plan to be seen at the post office, Washago, and at the Department of Public Works, in this city. Tenders are also invited by the above department until the 15th inst., for the construction of a landing pier at Phillipsburg, Missisquoi County, Quebec. Plans may be seen at the post office at Phillipsburg.—Hayter Reed, Deputy-Superintendent, is asking for tenders until the 9th of April for the delivery of Indian supplies at various points in Manitoba and the Northwest Territories for one year from 30th June next.—Dr. Grant purposes erecting a fine brick building on the corner of Elgin and Somerset streets.

**MONTREAL, QUE.**—It is reported that Sheriff Thibaudeau and Mr. C. N. Armstrong, who are now in London, Eng., have secured the \$2,000,000 necessary to build a bridge between Longueuil and Montreal.—Mr. Vanier, Engineer for the municipality of St. Louis du Mile End, has prepared plans and specifications for the erection of an electric light plant for the town.—At a recent meeting of the Municipal Council of the Town of Longueuil, it was decided to erect new water mains in the upper part of the town. It was also resolved to alter the machinery at the wheel house and to extend the present suction water main from its terminus 1000 feet farther, also to erect at the wheel-house a large filter, and to build on the shore a tunnel running parallel with the river. It is estimated that the total cost of the improvements will be about \$75,000. Tenders will be asked for at once, as the work must be completed during the coming summer.—The Superintendent of Waterworks submitted a report to the Water Committee asking for \$38,500 for pipe laying, valves, hydrants and new

services the matter was referred to council.—The Catholic School Commissioners, of St. Henri were last week successful in obtaining authority from the Superintendent of Public Instruction at Quebec to float a loan for school purposes, and steps will at once be taken to borrow the sum of \$150,000, which will be used in building two new schools and in consolidating the present debt.—The Fire Committee has selected the Duverge property on Notre Dame street as a site for a new fire hall to replace No. 7 station, which will be torn down for the new East End depot.

**TORONTO, ONT.**—Notice has been given by the Council that a Court of Revision will be held on the 18th inst. for the bearing of appeals respecting the assessments for the following proposed local improvements: asphalt pavement on McCaul street from Queen street to College street, on either side track allowance, cost \$30,600; concrete pavement on the first lane south of King street from the east side of Leader lane to the end of the said lane, cost \$350.—It is reported that the School Board have purchased property at the north-east corner of Elm avenue and Glen road as a site for a new school, but the statement has not been confirmed.—At a meeting of the Separate School Board held on Tuesday last, it was decided that a two-roomed brick school be erected on the property recently purchased on Bolton avenue and a four-roomed brick school on Fern avenue. Messrs. Post & Holmes, Manning Arcade, were appointed architects for the Bolton avenue school, and Mr. J. P. Hynes, of 375 Berkeley street, for the Fern avenue school. The cost will be \$2,000 and \$4,000 respectively.—The Fire and Light Committee are asking for tenders until Monday, the 18th inst., for the furnishing of 4,000 feet of 2½-inch and 2,000 feet of 3-inch interior diameter fire hose; also for a water tower. Particulars may be obtained from the Secretary of the Fire Department, at Bay street fire hall, and tenders are to be addressed to the Chairman, Ald. McMurrich. The City Council has decided to advertise at once for a site on which to erect a central fire hall south of Queen street, between Yonge and York street, for repairing the Boustead fire engine, and for a chemical engine for Yonge street fire hall.

#### FIRES.

The premises of the Victoria, B. C., Electric Light Company were gutted by fire on the 27th of February. The building and machinery were damaged to the extent of \$15,000.—Van Zant & Co.'s hardware store at Markham, Ont., was destroyed by fire on Sunday last. Loss, \$7,000; insurance, \$3,500.—The warehouse of Samuel Harris, wholesale furrier, Montreal, was badly damaged by fire recently. The building was owned by Jesse Joseph and is damaged to the extent of \$5,000; covered by insurance.—The brick residence of W. T. Armstrong, at Listowell, Ont., was completely consumed by fire on the 2nd inst. Insurance, \$1,000.—On Sunday morning last fire broke out in R. Simpson's new building at the corner of Queen and Yonge streets, Toronto, which caused a loss of about three quarters of a million dollars, and destroyed about a dozen buildings. The losses and insurance on the burned buildings are as follows: R. Simpson, loss, \$125,000, insurance, \$120,000; Wanless & Son, loss, \$10,000, insurance, \$17,000; Agriculture and Arts Association, loss, \$20,000, insurance, \$12,500; R. H. Gray, loss, \$6,000, insurance, \$6,000; Mrs. M. G. Jones, loss, \$10,000, insurance, \$10,000; Mrs. A. Henderson, loss, \$10,000, insurance, \$10,000; Imperial Bank, loss, \$1,200, insurance, \$1,200; Confederation Life Association, loss \$6,000, insurance, \$5,000; Knox church, loss, \$7,500, insurance, \$22,500; James Mannell, loss \$2,100, insurance, \$2,100. Mr Simpson is said

to have decided to rebuild a four-story building, and the work will no doubt be carried out under the supervision of Mr. Edmund Burke, the architect of the burned building. Mr. Mannell will rebuild the Tremont House at once, and add another story. Mr. Mallory, architect, will have charge of the work.—The Collin's hotel at Glamworth, Ont., was burned a few days ago. Loss, \$2,000; insurance, \$1,000.—The Presbyterian church at Glenboro', Man., was destroyed by fire on the 4th inst. Loss, \$2,500; insurance, \$1,000.—John Goldstaub's store at Plum Coulee, Man., was destroyed by fire recently; loss, \$7,000; insurance, \$4,000.—Fire at Halifax, N. S., on the 27th inst., destroyed the Government immigration sheds; wharf, grain elevator and elevator shute at the deep water terminus. The total loss will reach about \$600,000, the elevator and shute being valued at \$250,000. It is said the Government will at once rebuild.

**CONTRACTS AWARDED.**

**HAMILTON, ONT.**—Lowe & Farrells' tender for electric light fixtures for the House of Refuge has been accepted by the Hospital Committee, at the price of \$260.

**MADOC, ONT.**—The contract for the restoration of the Presbyterian church here has been awarded to R. F. Houston, of Tweed. The price is \$4,000, exclusive of seating and windows.

**QUEBEC, QUE.**—Contracts for improvements to the Clarendon hotel, owned by Mr. Lizotte, have been let as follows: painting, Pouliot & Gervais; plumbing and heating, Vaudry & Matte. Estimated cost \$6,000.

**KINGSTON, ONT.**—W. A. Newlands, architect, has awarded contracts as follows for improvements to Corbett's hardware store: carpentry, A. Williamson; masonry, W. McCartney; plumbing, J. Jamieson; painting, Robinson Bros.; tin-smithing, Elliott Bros.

**TORONTO, ONT.**—The tender of the Central Bridge and Engineering Company, of Peterboro', for an iron bridge 164 feet long across the lagoon at Island Park, has been accepted by the Parks and Gardens Committee of the City Council. Contract price, \$3,660.

**DESERONTO, ONT.**—The Hastings County Council has awarded the contract for the erection of O'Brien's bridge over the Moira river to the Waddell Bridge & Engine Company of Trenton, the lowest tenderers, at the price of \$6,120 for the superstructure and the sub-structure.

**COLLINGWOOD, ONT.**—A contract was given to the Bryan Mfg. Co., to build and complete a brick cased cottage for Mr. Stewart Lyon, for the sum of \$2,000. Building to be completed by June 1st. Residence of Mr. Frank Nettleton, was let to the several contractors as follows: brickwork, Thos. Ternges, \$1275; woodwork, Peterman & Son, \$1250; stone work, Thos. Ternges, \$200; painting and finishing, Frank Munson, \$290; plastering and interior work, John Lockton, \$195; heating and plumbing, John Duman, \$600. The building is to be faced with No. 2 Milton pressed bricks. Fred. T. Hodgson, architect.

**OTTAWA, ONT.**—Messrs. Alford & Smith have been accepted by the Department of Public Works as contractors for the completion of the Public Buildings in Victoria, B. C. The contract was originally awarded to Mr. Toms, who died while carrying out the work. The amount involved in completion will be about \$200,000.—The contract which Hugh Sutherland, as President of the Winnipeg Great Northern Railway, recently entered into with the Government, has been approved by order-in-council. It provides for the construction of the railway from Winnipeg to Hudson Bay, at the rate of 200 miles per year. One hundred and eighty miles are to be built this year.

**BUSINESS NOTES.**

E. A. Everett, hardware merchant, St. John, N. B., has assigned with liabilities of \$25,000 and assets somewhat less.

The annual meeting of the stockholders of Rhodes Curry & Co., Ltd., the well known contractors of Amherst, N. S., was held in that town last week, at which the following were elected officers for the ensuing year: N. Curry, president; N. A. Rhodes, vice-president; J. M. Curry, sec. treas.; J. C. Robertson, consulting director; J. M. Townshend, T. R. Black. M. P. P., Charles Archibald, directors.

**NEW COMPANIES.**

**WOODSTOCK, N. B.**—Small & Fisher Co., applying for incorporation; capital stock, \$60,000; to carry on general manufacturing and foundry business.

**GUELPH, ONT.**—Guelph Railway Co., applying for incorporation; to build an electric railway in this city, extending to adjacent towns. The promoter is George Sleeman.

**TORONTO, ONT.**—Mica Boiler Covering Co., incorporated; capital \$50,000; incorporators, H. Thorne, F. D. Benjamin, John Foy, H. C. Hammond and Nicol Kingsmill.

**LONDON, ONT.**—London Merchants and Manufacturers Steamship Co., seeking incorporation; capital \$50,000; applicants, John McClary, F. E. Leonard, W. R. Hobbs, of this city, and others.

**MONTREAL, QUE.**—Danville Asbestos and Slate Company, Ltd., applying to the Dominion Government for incorporation; capital stock, \$250,000; applicants, F. and M. Boas, of St. Hyacinthe, and J. N. Greenshields, Wm. Sclater, B. Shepherd and Wm. T. Costigan, of Montreal.

**ROAD BUILDING ON A COTTON FOUNDATION.**

The Massachusetts highway commissioners are trying an interesting experiment. The board has found in building macadamized roads that upon loose, sandy soil, much stone is wasted by being driven into the sand. In such cases, gravel, when accessible, has been placed upon the sand to a depth of three or four inches, and the stone laid on this. By so doing the cost is greatly reduced. There being no gravel at Martha's Vineyard, cheap cotton cloth has within two weeks been spread upon the sand, and over that the stone. It has been found that the sand does not work up through the stone and much less stone is required. Layers of tarred paper were tried, but without success, as the stone pressed through them. This is probably the first experiment ever made with cloth, and while the stretch on which it is used is not long, the showing will be valuable.

**Water Works  
Fire Hydrants  
Stop Valves**  
3" to 36"

**BOILERS, TOWERS & C., ENGINES AND GENERAL WORK**

**JNO. PERKINS CO'Y**  
Toronto Engine Works . . . . . TORONTO

**E. D. MORRIS**

Direct Importer and Dealer in  
Best English and Canadian  
**PORTLAND CEMENTS**  
Vitrified, Paving and Fire Bricks,  
Fire Clay, &c.

Offices: 75 Cottingham St. 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.

**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 D. EVANS, O.L.S.**

MEM. CAN. SOC. C. E.

**LAND SURVEYOR**

**Civil Engineer : Architect**  
and Patent Solicitor.

Special attention given to Consulting and  
Municipal Work.

GRASS' BLOCK, FRONT ST., TRENTON, ONT.

**ALAN MACDOUGALL**

M. Can. Soc. C.E. M. Inst. C.E.

**CIVIL AND SANITARY ENGINEER**

82 East Adelaide St. - TORONTO

SURVEYS AND ESTIMATES PREPARED for all  
classes of municipal work, water powers, road  
improvement. Construction superintended.

**JOHN GALT**

C. E. AND M. E., M. CAN. SOC. C. E.,

**Consulting Engineer.**

20 Years' Practical Experience in England, United  
States and Canada in Civil, Sanitary, Hydraulic,  
and Mechanical Engineering.

**SPECIALTIES**

Waterworks, Sewerage, Electric Railways

Office: Rooms 99 and 100,  
CANADA LIFE BUILDING, - TORONTO.

**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

Municipal officers are requested to mention  
the CONTRACT RECORD when corresponding  
with advertisers.

**CEMENT**

We  
Manufacture  
the

**THOROLD  
HYDRAULIC  
CEMENT**

the best  
and  
cheapest

for all kinds of Masonry work.  
Used on all Government and  
Municipal works, also on the  
Grand Trunk Railway.

Write us for prices  
or any other information  
required.

**ESTATE OF JOHN BATTLE**

THOROLD, ONTARIO

## MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

# MUNICIPAL DEPARTMENT

## ROAD CONSTRUCTION AND MAINTENANCE.

By W. M. DAVIS, C. E., WOODSTOCK.

In this short paper I shall refer more particularly to the class of roads best suited to the conditions which exist in the county of Oxford, and which will be applicable to many localities similarly situated. The character of the land throughout the greater portion of the county is undulating and is now in a state of cultivation. In no part of the county is it difficult to find an outlet for subsoil and surface drainage within a reasonable distance. A few of the leading roads were constructed in a substantial manner in the early 40's by private companies, and the remainder of the highways have been graded and maintained by statute labor according to the system, or rather lack of system, prevalent over the whole Province. Material, such as field stone and gravel, for the construction of permanent roadways, can be had in many cases on the neighboring farms for a little more than the cost of hauling. The field stone have been gathered into heaps and disposed of in any way to get rid of them and were absolutely worthless in the absence of rock crushing machinery. All that is required to give us a network of excellent roads in the County is a knowledge of how to use the materials nature has placed at our disposal and a system under which the work may be done in a thorough manner, and when once done may be maintained in an efficient state.

The science of road construction is neither difficult nor abstruse, but is based on well established principles, a clear comprehension of which is necessary to attain satisfactory results. It is not by any means a modern science though in its infancy in this country. It is our good fortune to have the benefit of the years of experience of other countries.

**DRAINAGE.**—Some one has truly said the three prime essentials to good roads are first, drainage, second, better drainage, third, the best drainage possible. On soils of a nervous nature, open ditches of from three to three and a half feet in depth will be found sufficient if the fall is good. This point is imperative; no water must remain stagnant to soak into the road bed. In more retentive soils a very good plan is to lay three inch or four inch tile in the centre parallel with the line of the road and emptying into open drains or the natural water courses. Another method is to lay transverse drains, preferably in the form of a V, with the apex up hill and the legs connecting with the deep open ditches. Lay two lines of tile

(Continued on page 6.)

## 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.

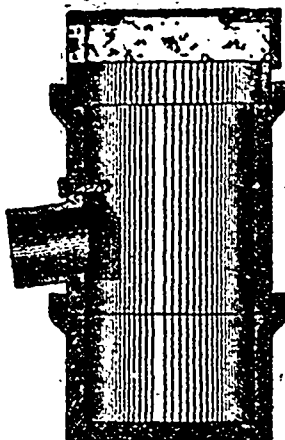
J. S. LOCKIE, Manager.

## 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. F. KIRK, Manager.

## THE "IMPROVED" ST. GEORGE CULLEY OR STREET DRAINING WELL.



PATENTED 1885  
AND 1893.

Made of cast iron  
and  
vitrified tile.

OVER 6,000 NOW  
.. IN USE.

Not ONE com-  
plaint.

For further par-  
ticulars, apply

**LEWIS SKAIFE, Manager**  
New York Life Building MONTREAL.

## 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. **EMILIUS 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

## 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**

## Artificial Granite Stone .. Pavements

... FOR ...  
STREETS, SIDEWALKS, BASEMENT  
FLOORS, ETC.

The attention of municipalities and others interested is called to the excellence of this material.

**A. GRAHAM**  
Sole Proprietor and Patentee  
226 Piccadilly St., - LONDON. ONT.

## Drummond McCall Pipe Foundry Company,

MONTREAL

MANUFACTURERS OF

## CAST IRON WATER AND GAS PIPES

WORKS: LACHINE, QUE.

PRICES ON APPLICATION.

## CANADA PIPE AND FOUNDRY CO. ....

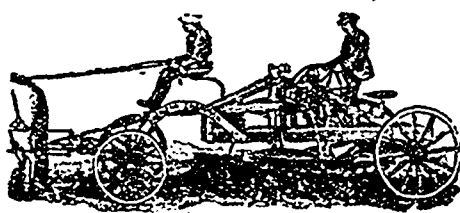
MANUFACTURERS OF

## ..... Cast Iron Pipes and Special Castings

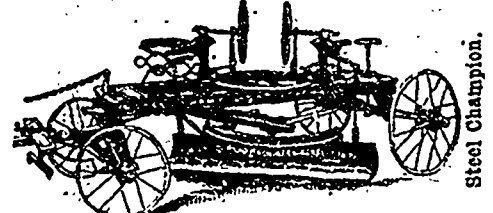
Works: MONTREAL AND ST. HENRI, QUE.

CORRESPONDENCE SOLICITED.

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



American Champion.



Steel Champion.

## THE G. & J. BROWN MFG. CO.

Railway and Contractors' Plant.

# BRIDGE BUILDERS

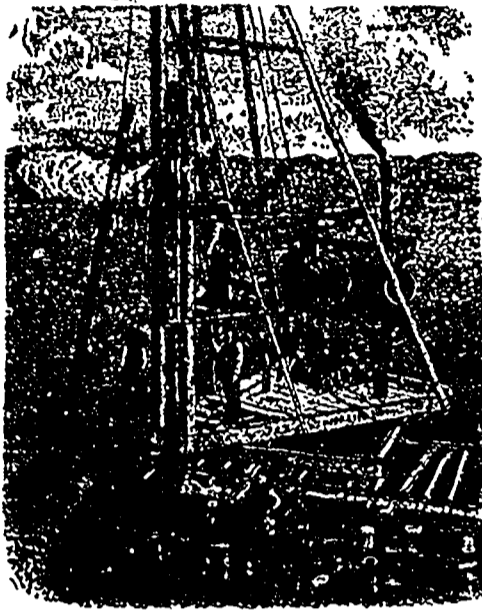
BELLEVILLE, ONT.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

**WM. HOOD & SON**  
Contractors

MONTREAL, QUE.

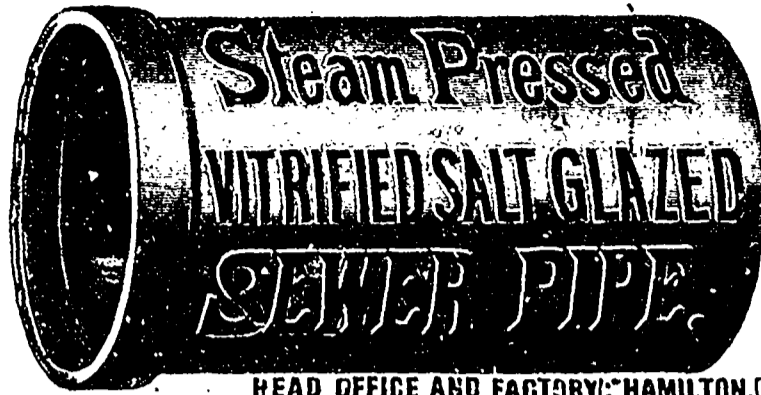
are prepared to do piling on land or water, employing steam pile drivers or drop hammers.



Hoisting Machinery, Portable Boilers and Pumping Machinery to Let.  
**WM. HOOD & SON - MONTREAL**

Municipal Officers, Contractors and others are requested to mention the *CONTRACT RECORD* when corresponding with advertisers.

**HAMILTON AND TORONTO SEWER PIPE CO.**



— FOR —  
**SEWERS,**  
GULVERTS,  
AND  
WATER PIPES.  
**INVERTS**  
Fire Brick Sewers

Write for Discounts

HEAD OFFICE AND FACTORY: HAMILTON, CANADA.

**THE STANDARD DRAIN PIPE CO.**

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



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

Double Strength  
Railway Culvert Pipes,  
Inverts, Vents,

AND ALL KINDS OF FIRE CLAY GOODS.

**STEAM AND POWER**

FOR ALL DUTIES

**Pumps**  
& HYDRAULIC MACHINERY

**NORTHEY Co.**  
LTD.

Toronto  
Ont.

**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.

(Continued from page 4.)

on each side the road to carry off the subsoil water. While the surface water would be provided for by shallow gutters which would discharge either into the natural water courses or the subsoil drains.

**WIDTH OF ROADWAY.**—A good width for the roadway is thirty feet between ditches. This will give room for three drive ways and will be found cheaper to maintain than a narrower one besides making a safer road in winter.

**EARTH ROADS.**—To this class the great majority of our roads must always belong, and for limited traffic they are the best of roads when kept dry below the frost line. They can be cheaply maintained by unskilled labor—a common road scraper and roller being used for reforming the road bed, the labor and teams being procured from the neighboring farmers. The road machines with which many municipalities are now supplied are specially fitted for this class of work, and are of valuable assistance in the hands of an intelligent operator, but if they are used to heap the grass and sods from the side of the road into the centre—a method of which I saw an example last summer—one machine if industriously worked will cause more damage in a day than the road will recover from in a year. In the maintenance of earth roads all that is necessary is to keep the drains open so that the subsoil will be dry and the surface free from ruts, with the centre crowning to get rid of the surface water quickly.

On trunk roads where the travel is great, some more durable material must be used, but it will generally be sufficient to prepare a roadway eight feet wide in the centre leaving an earth road on each side for summer travel. Gravel in the past has been universally used, but on account of the cost of breaking, field stone has apparently never been considered as a material for road making. The cost of stone cutters now place them within reach, and an excellent road can be made by using these stone for a foundation, completing the road with broken stone and gravel. This roadway has no new feature, and is simply the old Telford road, the cost of which formerly placed it beyond our reach, but which I shall endeavor to show is under the conditions I have described the most economical road that can be built.

The subgrade should be formed at a depth of twelve inches below the intended surface of the road and should have the same crown as that proposed for the surface—about two inches in eight feet. The road bed should then be thoroughly rolled. Any depressions that appear should be carefully filled. A layer of common field stone should then be laid in courses at right angles to the roadway the longest diameter vertical, larger ends down and contiguous courses breaking joints. This layer should not be less than five nor more than seven inches thick. The stones should be well pounded with a heavy pounder, the interstices filled with chips firmly wedged by hand. On a foundation

thus prepared place a layer of clean broken stone, four inches thick, of which the largest piece shall pass through a two and a half inch ring in all dimensions. This course should be thoroughly rolled. Cover the broken stone with a coat of clean coarse sand, which should be swept or washed into the interstices of broken stone. Finish the roadway by it with two inches of fine gravel, of which the largest stones should not exceed one inch in diameter, which should then be rolled until the surface is perfect. In rolling, commence at the sides and continue till the roadway is so consolidated that subsequent rolling in the centre could not crowd the material out. Use the roller without the load first, and gradually increase the weight until the maximum is reached.

The following estimate shows the cost of a mile of road, constructed as above described:—

Grading, 1564 cubic yds. at 25c.....	\$ 391.00
Cobble stone, 782 cubic yds. at 50c....	391.00
Laying cobble foundation.....	235.00
521 cubic yds. crushed stone.....	442.00
Spreading stone and gravel.....	100.00
260 cubic yds. gravel.....	130.00
Rolling.....	97.00
	<hr/>
	\$1786.00

The great bulk of this work would be done by the people of the neighborhood and the district through which the road passes, would in this way be benefitted by the distribution of the money expended on the work.

I am sure that the estimate I have given is far below those usually found in books on road construction, but you will perceive the chief difference is in the cost of material, which can be had as I have stated, practically for the cost of delivering it on the roadway, and the estimated cost of all the work except the rock crushing is based on the actual cost of similar work actually carried on under my direction.

**MAINTENANCE.**—The question of maintenance is second in importance only to that of construction. No matter how skillfully and thoroughly the work of construction is carried out no road can be erected to retain its efficiency without constant attention, and it will be found much more economical to keep it in repair than to put it in repair after it has begun to seriously deteriorate. The old saw of "a stitch in time" is especially true in road maintenance. A small rut appears; a shower fills it with water, which soaks into the surface of the road; each passing wheel makes the rut deeper until it becomes a mud puddle which requires a load of road metal to repair. Each rut or depression should be taken when it appears, the dust or mud raked out and filled to the surface of the road with metal. The metal should be used sparingly, not piled up higher than the surface of the road to cause an obstruction. Where several ruts occur in a short distance only the deepest should be filled first, when the material in these is packed fill the others. The places repaired in this manner should be rolled until quite firm. The best time to make repairs is in

wet weather. Then every depression and spot that needs attention shows plainly, and the new material readily unites with the old. The drainage must not be forgotten, for the indispensable conditions for a stone road of any sort is an unyielding foundation, and this is impossible without thorough drainage. I cannot emphasize too strongly the necessity for the repairs being continuous. They can be made more cheaply when promptly done, and what is of more importance the road is always good, while under the plan of annual repairs the road is nearly impassable for one-half the year for want of repairs and impassable the other half because of the repairs.

It is of importance that the roads should not be too closely shaded. Shade trees should be trimmed high and where timberland adjoins the road the trees should be cut for two rods on each side the road allowance. The road must be exposed to the sun and winds in order to dry quickly after rains.

**BROAD TIRES.**—The width of tires has an appreciable effect on the cost of maintenance of roads. The narrow two and a half inch tires in general use when heavily loaded cut into the roadway like a knife and it has been proven by experiment that wheels with two and a half inch tires cause double the wear of wheels with four or four and a half inch tires. Morin's experiments indicate "on a paved or well built macadam road tractive force is independent of the width of the tire provided the same is more than three or four inches. On compressible roads such as new gravel or on a meadow, the tractive force diminishes with an increase in the width of the tires." The chief advantage therefore of narrow tires is on muddy roads where the thick mud has not so tenacious a hold when it was round the spokes and felloes. To counterbalance this we have easy draft on the farm and a great decrease in injury to our roads. The only rational reason for the existence of the narrow tires is custom, and I am afraid the use of broad tires will never become general until the width is regulated by law.

**ROAD MACHINERY.** A very essential implement in the construction and maintenance of earth roads is the reversible road machine. It is no exaggeration to say that the work of grading and shaping a road bed can be done by one of these machines for 50% of the cost under the old methods and the quality of the work is infinitely superior.

A serviceable rock crusher with a receiving capacity of fifteen inches by seven inches and having a product of six cubic yards per hour would cost, mounted on trucks, \$1,000, and could be run by an ordinary portable engine of nine or ten horse power for about \$20.00 a day including the cost of labor.

I am sensible of the advantages of a steam roller, and am willing to admit that for city streets it is indispensable, but when its disadvantages, such as breaking of culverts, scaring of horses and general interference with traffic are considered, I am of the opinion that a horse roller is better adapted for use on country roads. A roller weighing about 3000 pounds, three feet in length, four feet in diameter, made in three sections, with a frame strong enough to permit of its being loaded with one and one-half tons of pig iron, would I think, answer every purpose and the cost need not exceed \$150.00.

**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 ANN'JM.

**D. BAER & CO.**

BUILDERS OF THE

Baer Patent

**COMBINATION - BRIDGE  
DOON, ONT.**

All communications promptly answered.

**Fire Bricks and Cement**

DRAIN AND WATER PIPES

SANITARY EARTHENWARE

LONDON PORTLAND CEMENT

GUARANTEED GENUINE.

Paving and Scoria Bricks for Stables,  
Sidewalks, Yards, etc.

Large quantities on hand and to arrive. We handle  
only the best quality. Prices lower than ever.

**F. HYDE & CO.**

31 Wellington Street, - MONTREAL,  
Sole Agents for

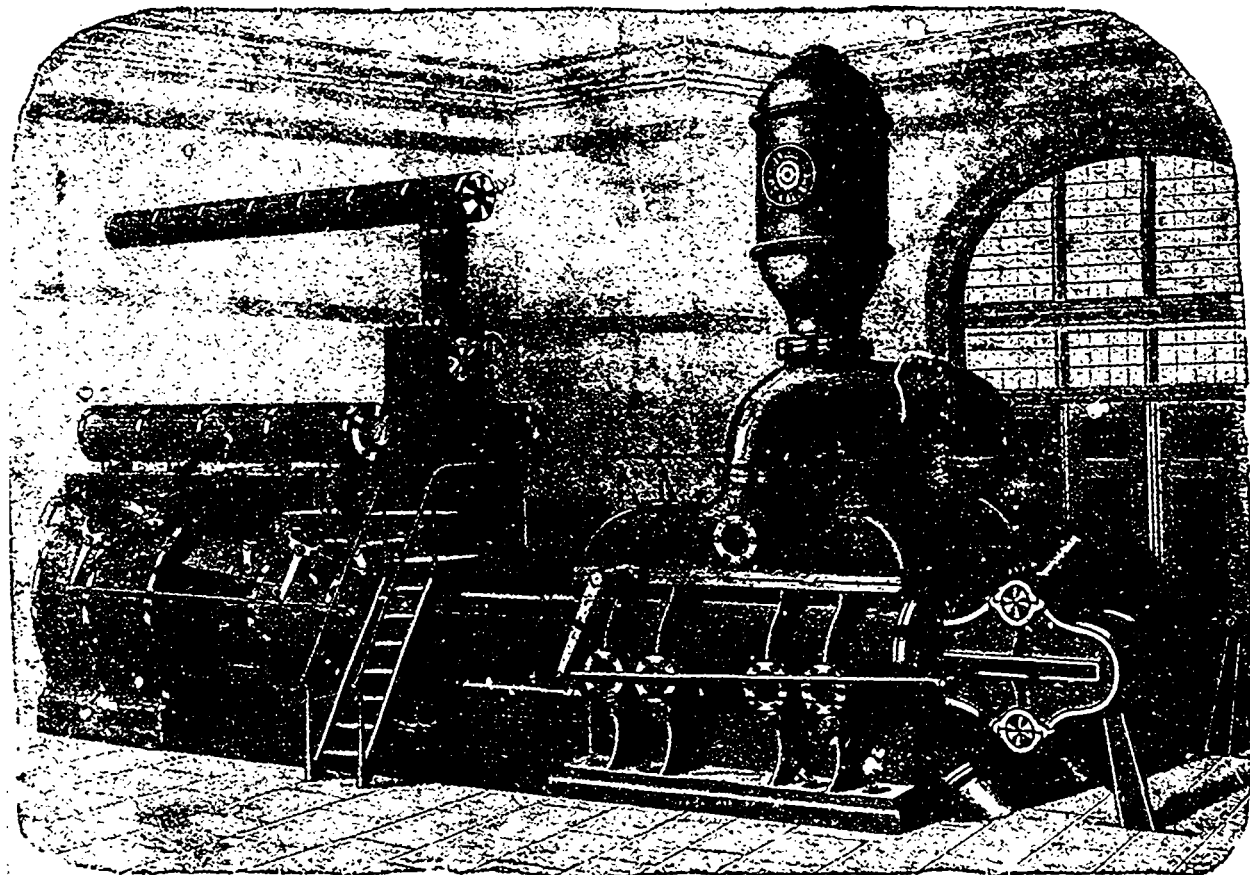
THE "CRANTRYX" SMOKE TEST AND  
DISINFECTING MACHINE.

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

<b>Architects.</b>	<b>Cements.</b>	<b>Heating.</b>	<b>Roofers</b>
Ontario Directory... 111	Bremner, Alex. .... IV	Gurney Foundry Co. ii	Douglas Bros. .... II
Quebec Directory .. i.	Currie & Co. W & F P. x	King & Son, Warden. ii	Duthie & Sons, G. .... II
<b>Architectural Sculptors and Carvers.</b>	Maguire Br s. .... i	Ormsby & Co., A. B. i	Hutson, W. D. .... II
Holbrook & Mollington .. i	Owen Sound Portland Cement Co. .... III	Toronto Radiator Mfg Co. .... v	Metallic Roofing Co. .... vii
<b>Architectural Iron-Work.</b>	<b>Out Stone Contractors.</b>	Williams, A. R. .... x	Rennie & Son, K. .... II
Dominion Bridge Co. i	Isaac Bros. .... II	<b>Lime.</b>	Stewart, W. T. .... II
Lea, J. S. .... vi	Oakley & Holmes. .... II	Currie & Co. W & F P. x	Williams & Co., H. .... II
Shipway Mfg Co. .... ii	<b>Chimney Topping.</b>	Ontario Lime Association .. vii	Warren Chemical & Mfg. Co. .... II
Whitfield, John .... III	Bremner, Alex. .... IV	<b>Legal.</b>	<b>Roofing Materials</b>
<b>Art Woodwork.</b>	Currie & Co. W & F P. x	Bentley & Co. W. B. .... ii	Danville Slate Co. .... x
Knechtel, S. .... III	<b>Drain Pipe</b>	Denton & Dods. .... II	Metallic Roofing Co. .... vii
<b>Bricks (Pressed)</b>	Bremner, Alex. .... IV	<b>Metallic Lath.</b>	Warren Chemical & Mfg. Co. .... II
Beamville Pressed Brick Co. .... vi. i	Currie & Co. W & F P. x	Metallic Roofing Co. .... vii	<b>Sanitary Appliances</b>
Port Credit Pressed Brick & Terra Cotta Co., Limited. .... ix	Hamilton and Toronto Sewer Pipe Co. .... x	<b>Mortar Colors and Shingle Stains.</b>	Dominion Sanitary Pottery Co. .... ix
<b>Builders' Supplies.</b>	Maguire Bros. .... i	Cabot Samuel. .... IV	McRae & Co. .... viii
Bremner, Alex. .... IV	Standard Drain Pipe Co. .... II	Muirhead, Andrew. .... i	Sanitas Mfg. Co. .... ix
Currie & Co. W & F P. x	<b>Dumb Waiters</b>	<b>Ornamental Plasterers.</b>	Toronto Steel Clad Bath & Metal Co. .... vii
Clatworthy, Geo. .... iii	King & Son, Warden ii	Baker, J. D. .... vi	<b>Shingle Stains</b>
Maguire Bros. .... i	<b>Electric Wiring</b>	Hynes, W. J. .... vii	Cabot, Samuel. .... IV
Ontario Lime Association. .... vii	Rogers & Doss. .... IV	<b>Paints &amp; Varnishes.</b>	<b>Sliding Blinds</b>
Rice Lewis & Son .... IV	<b>Elevators</b>	Muirhead, Andrew. .... i	Clatworthy, Geo. .... ii
Spruiell, O. T. .... viii	Fensham, John .... IV	<b>Painters.</b>	Lea & Seaman. .... II
<b>Building Stone Dealers.</b>	Leitch & Turnbull. .... i	Gilmor & Casey. .... III	<b>Stained and Decorative Glass</b>
Carroll, Vick & Co. .... vi	Williams, A. R. .... x	<b>Paving.</b>	Castle & Son. .... i
Clark, Wm. .... vii	<b>Engravers.</b>	The Guelich Silica Barytic Stone Co. .... IV	Dominion Glass Co. .... iv
Hood & Son, Wm. .... vii	Can. Photo-Eng Bureau. .... iii	<b>Plasterers</b>	Elliott & Son. .... i
<b>Builders' Hardware.</b>	<b>Fire Brick and Clay</b>	Hynes, W. J. .... vii	Grimson, G. & J. E. .... iv
Rice Lewis & Son. .... IV	Bremner, Alex. .... IV	<b>Plumbing Supplies</b>	Hobbs Mfg. Co. .... iv
<b>Cresote Stains</b>	Currie & Co. W & F P. x	Campbell & Purvis. .... ix	Horwood & Sons, H. .... iv
Cabot, Samuel. .... IV	Maguire Bros. .... i	Dominion Sanitary Pottery Co. .... ix	McCausland & Son. .... iv
<b>Church and School Furniture.</b>	Standard Drain Pipe Co. .... II	Sanitas Mfg. Co. .... ix	Longhurst, H. .... iv
Can. Office & School Furniture Co. .... iv	<b>Galvanized Iron Workers.</b>	McRae & Co. .... viii	Lyon, N. T. .... iv
Office Specialty Co. .... iv	Tucker & Dillon. .... II	<b>Plate Glass</b>	Quessel, Sharpe & Co. iv
Snider, J. B. .... iv	Douglas Bros. .... II	Hobbs Mfg. Co. .... iv	<b>Wall Paper and Ceiling Decorations</b>
<b>Church Reflectors</b>	Ormsby & Co., A. B. i	McCausland & Son. .... iv	Elliott & Son. .... i
Frink, I. P. .... III	<b>Grants</b>	The Consolidated Plate Glass Co. .... ii	<b>Wire Manufacturers</b>
<b>Contractors' Plant and Machinery</b>	B. unct, Jos. ....	<b>Parquetry Floors</b>	Shipway Mfg Co. .... ii
Rice Lewis & Son. .... IV	<b>Grates and Tiles.</b>	Elliott & Son. .... i	<b>Wall Plaster</b>
	Holbrook & Mollington i	Elliott, W. H. .... vi	Albert Mfg. Co. .... i
	Rice Lewis & Son. .... IV	<b>Plumbers</b>	Nowell & Co. B. L. .... vi
		Balantyne, James. .... ii	<b>Wall Tin</b>
		<b>Reproduction of Drawings</b>	Mac Machine Co. .... iv
		New Color Process Co. .... vii	<b>Window Blinds</b>
			Clatworthy, Geo. .... ii
			Lea & Seaman. .... II

**JOHN McDougall**

• • Caledonian Iron Works • •



OFFICE:  
Corner William and  
Seigneurs  
Streets,  
**MONTREAL**

**HYDRAULIC  
MACHINERY  
CONDENSERS  
WATERWORKS  
SUPPLIES  
WATER METERS**

and Meters for all  
services

MANUFACTURERS  
OF

Machinery for Elec-  
trical Work, etc., etc.  
Boilers, Engines ...  
Forgings, Girders,  
Castings, Shafts, Pul-  
leys, Gears, Bearings,  
etc. ....

AGENTS IN CANADA FOR THE

**Famous Worthington Pumps**



Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: Trade in builders supplies is improving steadily as the season advances and a fairly good building season is anticipated throughout Ontario. Building operations in Toronto are as yet somewhat dull, although the disastrous fires of the past two months will necessitate the expenditure of a large sum of money in rebuilding, and will have a tendency to brighten the outlook for the season. Hardware is moving freely, the movement being principally in spring specialties. Cement is steady at \$3 per barrel for best grades Portland. Scotch fire bricks are selling at \$3.25 per 100, and fireclay at \$1 per 100 lbs. Lead pipe and galvanized iron are quiet, and discounts remain unchanged.

MONTREAL: Preparations are being made for the season's trade, which it is thought will be of fair proportion. A fair volume of business is being done in hardware, and orders for future delivery are coming in freely. The demand for cement continues low and the market in consequence is dull, prices being nominally unchanged. In firebricks the movement has been fair in small lots at \$15 to \$22 per 1,000 as to brand. An active business is reported in plumbers supplies for both city and country trade.

LUMBER.

CAR OR CARGO LOTS.

Toronto. Montreal.

Table listing lumber prices for various grades of pickets, shingles, and flooring, with columns for Toronto and Montreal prices.

VAID QUOTATIONS.

Table listing mill cull boards, shipping cull boards, hemlock scantling, and other lumber products with their respective prices.

Toronto. Montreal.

BRICK—M

Table listing brick prices for various types including Common Walling, Good Facing, Sewer, and Pressed Brick.

SAND.

Per Load of 1 1/2 Cubic Yards

STONE.

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

SLATE.

Table listing slate prices for Roofing and Terra Cotta Tile.

PAINTS. (In oil, @ lb.

Table listing paint prices for White lead, Zinc, Red lead, and other types.

CEMENT, LIME, etc.

Table listing cement prices for Portland, German, London, and Newcastle.

Toronto. Montreal.

Table listing cement prices for various brands like Belgian, Canadian, Roman, and others.

HARDWARE.

Table listing hardware prices for Cut nails, Steel, and various types of nails.

FINE BLUED NAILS.

Table listing prices for fine blued nails.

CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX

Table listing prices for casing and box materials.

FINISHING NAILS.

Table listing prices for 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 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 iron pipe.

Lead Pipe:

Table listing prices for lead pipe.

Galvanized Iron:

Table listing prices for galvanized iron.

Structural Iron:

Table listing prices for structural iron.