

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 type="checkbox"/>	<input checked="" 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 THROUGHOUT CANADA.

Vol. 5.

AUGUST 9, 1894

No. 27

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.

At its Convention held in Toronto, Nov. 20 and 21, 1889, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this Journal as their medium of communication with contractors with respect to advertisements for Tenders.

The following resolution was unanimously adopted at the First Annual Meeting of the Province of Quebec Association of Architects, held in Montreal, Oct. 10th and 11th, 1890: "Moved by M. Perrault, seconded by A. F. Dunlop, that we the Architects of the Province of Quebec now assembled in Convention being satisfied that the CANADIAN CONTRACT RECORD affords us a direct communication with the Contractors,—Resolved, that we pledge our support to it by using its columns when calling for Tenders."

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.
Branch Office: New York Life Building, Montreal

BARTER AND EXCHANGE.

This department has been opened for the speedy barter and exchange of second-hand plant or material, or small lots of new or second-hand materials by builders and others not regularly engaged in the sale of such articles. Advertisements other than those of the above description will not be inserted.

RATES—12 words and under, 15 cents; each additional word, 1 cent (three figures count one word); on two or more subsequent insertions a discount of 10 per cent. will be allowed. Not more than four insertions of an advertisement can be granted.

Replies to advertisements may be addressed to a box at this office, in which case necessary stamps must be sent for re-mailing replies. Advertisements for this department must be prepaid.

FOR SALE—Wood and glass partition, 9 feet high, 18½ feet long, including door 3 x 3 feet. Pine, natural finish, ground glass in panels. In use little more than a year. Cost over \$50. will be sold at a sacrifice. Box 50, CONTRACT RECORD office.

TENDERS

for the Plumber work, Gas work and Drainage of Woodstock Hospital will be received until

AUGUST 14TH

at the office of Alex. White, architect, where plans and specifications may be seen.

A. WHITE, Architect,
Woodstock, Ont.

TENDERS

Tenders will be received up to 5 p.m. on WEDNESDAY, the 15th inst., for the whole of the various trades required in the erection of

A STORE AND OFFICE BUILDING

at 144 Yonge Street, for Benjamin Kent, Esq.
Contractors will be required to furnish evidence as to their ability financially and otherwise to carry out the various works.

The lowest or any tender not necessarily accepted. Plans and specifications may be seen and all particulars obtained at the offices of the undersigned

F. H. HERBERT, Architect.
City & County Loan Building,
32 Queen St. E., Toronto.

TENDERS WANTED

Tenders will be received by the undersigned, until WEDNESDAY, the 15th August, 1894, for the erection and furnishing an

ELECTRIC LIGHT PLANT

including poles and wires, lamps, etc., etc. And for erecting a Power House on the water power owned by the Town of Trenton, to be owned and operated by the municipality.

Also a tender for lighting the Town of Trenton, the tender to state price separately, and to furnish their own plans and specifications.

Further information can be obtained from the undersigned. The lowest or any tender not necessarily accepted.

GEO. CROWE,
Chairman Fire, Market and Police Committee.
Trenton, 25th July, 1894.

NEW COMPANIES.

NIAGARA FALLS, ONT.—Niagara Falls Hotel Company, incorporated, capital \$60,000.

WEYMOUTH BRIDGE, N. S.—Sissiboo Falls Pulp Company, seeking incorporation; capital, \$30,000; applicants, W. E. Palfrey, of Lawrencetown, F. M. Steadman, of Weymouth Bridge and others.

BRIDGEWATER, N. S.—E. D. Davison & Sons, Limited incorporated, capital stock, \$250,000, to carry on a general lumber business; incorporators, C. H. Davison, E. D. Davison, A. F. Struthers and R. Dolliver.

BUSINESS NOTES.

N. Peladeau and A. Pilon, contracting masons, Montreal, have dissolved partnership.

John Mills, builder, Hamilton, Ont., has assigned to S. C. Newburn.

E. A. Manny & Co., founders, Beauharnois and Montreal, have assigned.

It is reported that Stevens & Burns, brass founders and machinists, London, Ont., have assigned.

CONTRACTS OPEN.

BEETON, ONT.—Tenders are being received for the new town hall.

NEW GLASGOW, N. S.—Sewerage debentures will be issued to the amount of \$8,000.

BELLEVILLE, ONT.—The Emmanuel Reformed Episcopal church is to be enlarged.

BROCKVILLE, ONT.—The House of Refuge to be erected here will cost about \$16,000.

DUNDAS, ONT.—The Council has decided to raise the sum of \$3,500 to repair bridges.

NORTON, N. B.—The Roman Catholic congregation of this place are preparing to erect a new church.

NEWMARKET, ONT.—Tenders are invited by the Town Council for lighting the streets with electricity.

HALIFAX, N. S.—W. L. Brown, City Treasurer invites tenders until the 28th inst. for a loan of \$28,000 for sewerage purposes.

VICTORIA, B. C.—Several companies are figuring on the rebuilding of the C. P. R. bridges in this province swept away by the recent floods.

AYLMER, QUE.—The cost of the proposed waterworks system is estimated at \$33,000. The ratepayers will be asked to sanction the expenditure.

CALGARY, N. W. T.—The Hudson Bay Company will erect a new brick block on the site of their present building. Work will be commenced at once.

YARMOUTH, N. S.—H. H. Mott, architect, of St. John, N. B., is preparing plans and will call for tenders in a few days for a new Baptist church to be erected in this town.

VANCOUVER, B. C.—The Canadian Pacific Railway Company is about to commence the erection of a new brick block on the corner of Granville and Dunsmuir streets.

ARNPRIOR, ONT.—A. J. Campbell will rebuild his stables and sheds recently destroyed by fire. Substantial stone buildings will be erected, the roof of which will be covered with iron.

COLLINGWOOD, ONT.—It is said to be the intention of a company, of which Mr. W. S. Taylor, of the Don Valley Pressed Brick Works, Toronto, is at the head, to erect a saw mill at Jardines side road.

BRANTFORD, ONT.—Mr. White, Chief Architect of the Militia Department, Ottawa, has decided that certain alterations be made to the drill shed, at a cost of \$3,000. The work will be carried out immediately.

OWEN SOUND, ONT.—At a meeting of the stockholders of the Owen Sound Portland Cement Co., to be held on the 11th inst., the question of rebuilding the company's works at Shallow Lake will be considered.

PETERBORO', ONT.—The primary survey of the Lakefield Peterborough section

of the Trent Valley canal has been completed. Plans are now being prepared and as soon as these are completed the location survey will be made.

NIAGARA FALLS, ONT.—The by-law authorizing the Council to raise the sum of \$88,000 for the construction of a sewerage system was voted on by the rate payers on Monday last and was defeated by a majority of eight votes.

GAIT, ONT.—It is reported that the projectors of the Gait and Preston electric railway have definitely decided upon the extension of their line to Hespeler. It is also said that the construction of a new line from Berlin to Preston is under consideration.

HULL, QUE.—Mr. Viau, who has been granted a franchise for an electric railway through the streets of this town, will commence the erection of the power house at once. It will be situated on the north side of the Ottawa river near Tetreauville. A dam will also be constructed.

HAMILTON, ONT.—W. A. Edwards, architect has prepared plans and is receiving tenders for a brick warehouse in this city.—The Imperial Oil Company will build a barrelling station on the west side of the McKechnie property in the north-eastern part of the city.—Tenders for the erection of the proposed House of Refuge will be received by H. R. Barber, architect, until the 15th inst.

LONDON, ONT.—John Wilkey will erect a brick cottage on Quebec street, at a cost of \$1,100.—Moore & Henry, architects, are inviting tenders until 5 p.m. today (Thursday) for the altering and refitting of brickwork of boilers and steam fittings of heating apparatus at the City Hospital. Contractors are figuring on alterations to buildings on the Western Fair grounds.—George Hammett has been granted a building permit for a brick cottage on Hewitt street, to cost \$1,000.

MONTREAL, QUE.—The French Chamber of Commerce has decided to erect a new building, at a cost of over \$100,000. The new structure will be built on the same plan as the Board of Trade building recently completed, with the exception that the basement and first floor will be fitted up for stores. The upper flats will be used as offices, halls, and telegraph and telephone departments. The Finance Committee has made a grant of \$5,000 to the water Committee for the purchase of water meters. Messrs. Perrault & Lesage architects, are calling for tenders this week for all trades required in the erection of four stores and dwellings on Notre Dame st. west for Mr. Jos. Versailles.

Building permits have been granted as follows: Jas. Poustie, three storey stone front residence on Peel street, cost \$7,000; Barbeau & Pounier, three storey stone front tenement building on Esplanade avenue, cost \$6,000; L. Barre, three storey brick tenement building on St. Martin street, cost \$2,000; J. B. Durocher, two three storey stone front stores and dwellings on Notre Dame street, cost \$5,000; J. Langhag and J. Banfork, three

storey stone and brick front stores and dwellings on St. Catherine street, cost \$1,300.

OTTAWA, ONT.—It is expected work will shortly be commenced on the new Maternity Institute. The building is to be 40 by 56 feet and will contain four public and three private wards. The cost will be about \$6,000.—The department of Public Works for the Dominion will shortly call for tenders for the construction of a new steel dredge for salt water service. The appropriation for the vessel is \$40,000. The hull is to be built entirely of steel.—D. Ewart has been granted a building permit for a brick veneered residence on Bessere street, to cost \$1,800.—P. Baskerville has purchased the row of brick houses on Augusta street, near Rideau Street, and will make extensive repairs.—J. H. Bilderson, Secretary Department of Railways and Canals, will receive tenders until the 4th of September for the deepening of the canal prism between locks Nos. 3 and 5. Plans may be seen at the above department in this city and at the Superintendent Engineer's office in Montreal.—Tenders for hot water heating apparatus at the Lethbridge, Alta., public building, will be received by E. F. E. Roy, Secretary Public Works Department, until the 29th inst. Plans at Dominion Public Works office, Winnipeg and at Clerk of Works office, Lethbridge.

TORONTO, ONT.—The City Council has given notice of its intention to construct an asphalt pavement on Adelaide street, from Yonge street to Church street, at a cost of \$14,300.—The Warren Scharffe Asphalt Paving Co. contemplate the erection of a large factory in this city, and have applied to the Council for the lease of a site on the Don flats.—An effort is being made to by members of the City Council to have a breakwater constructed along the south shore of the Island. The Dominion Government agreed to protect the Island and improve the eastern gap on condition that the city paid \$100,000 towards the cost. The city has paid the money, and the Government is to be asked to proceed with the work.—An agreement has been reached between Hon. Mr. Harty, Commissioner of Public Works, and Park Commissioner Chambers relative to the grading and improving of the portion of Queen's Park which surrounds the Parliament buildings, and an effort will be made to have the work done this fall. The improvements will cost the city about \$5,000 and the Government between \$7,000 and \$8,000.—The Toronto Street Railway Company are preparing the site for their car sheds on the corner of Roncesvalle avenue and Queen street.

FIRES.

The outbuildings of the Canadian Oil Company at Sarma, Ont., were consumed by fire recently. The loss will reach \$17,000. The residence of Charles Beith was also destroyed.—A brick block at Tweed, Ont., owned by Adam McGowan, was destroyed by fire last week. Loss \$4,000, covered by insurance. Latour's hotel and the residences of R. Leck and S. Monette, at Gattineau Point, Ont., were burned a few days ago. Loss, \$5,000; no insurance.—The residence of Prof. Harris at Bathurst, N. B., has been destroyed by fire. Insurance \$3,000.—W. Harris & Co's pork factory on Pape Ave., Toronto, was destroyed by fire on Friday of last week. Loss, \$5,000; insurance small.—W. B. Kelly's saw mill at Bridgenorth, Ont., six miles north of Peterboro', was burned to the ground on the 2nd inst. Loss on mill, \$5,000; insurance, \$3,000.—Manning's grist mill at Balmoral, Man., was destroyed by fire on Monday last. Loss \$9,000; insurance, \$5,000.—MacLaren's saw mill at Macleod N. W. T., was burned on the 9th inst. Lost \$2,000.—Fire at Alton, Ont., on the 5th inst., destroyed Boggs & Rowcliffe's carriage works, Samuel Barber's residence, Dr. Algie's outbuildings and Barber & Bro.'s carriage shop. The loss will be about \$8,000.—D. W. Grant & Co's carriage

works, at Woodstock, N. B., was consumed by fire recently. Loss \$20,000; insurance, \$5,100.—A large portion of the village of Harrow, Ont., was destroyed by fire on Saturday last. Some of the burned buildings are: A. E. Sinasc's flour mill, the residence of J. S. Wright, Jos. Quick, G. Eorm, C. Bott, J. Smith and J. Drummond, P. R. Rumble's hardware store and residence and J. Stokey's grocery store. The loss will reach \$40,000.

CONTRACTS AWARDED.

EDGINGTON, ONT.—The contract for a Presbyterian church at this place has been let to Logan & Crockford, of Parry Sound.

OTTAWA, ONT.—The contract for section 11 of the Soulanges canal which was awarded to Thos. Feeney, has been transferred to W. J. Poapre & Co.

BROCKVILLE, ONT.—The Keith & Fitzsimmons Co., of Toronto, have been awarded the heating and plumbing contract at the new asylum. Fifteen boilers will be required.

DARTMOUTH, N. S.—Herbert E. Gates, architect, has let the contracts for the following work: Mansie for St. James church, in this town; school house at Woodside, G. Gates, contractor residence for James Simmonds, Dartmouth, J. T. Walker, contractor.

WINNIPEG, MAN.—The school Board received the following tenders for some stone foundations and other improvements to the Carlton street and No. 1 Central schools: Rourke & Cass, Carlton street school, stone foundation, \$4,400; extras including brickwork, shiplap and raising, \$5,400; Central school No. 1, stone foundation, \$4,500; extras, \$2,100; C. W. Sharpe & Co., South Central School, foundation, \$3,570; extras, \$4,600, including raising, \$1,500; nine-inch brick and shiplap, \$2,600; concrete floor, \$700; Central School No. 1, \$4,500 for stone foundation; \$5,400 for brick work, shiplap and concrete floor; Daniel D. Wood, South Central, stone foundation, \$3,285; if the school be raised three feet higher, \$4,785. Central No. 1, stone foundation, \$3,765. The tender of D. D. Wood has been accepted for the South Central school.

TORONTO, ONT.—A sub-committee of the Board of Works awarded contracts as follows on Saturday last: asphalt pavement on Cecil street, from Spadina ave. to Beverley street, Warren Scharffe Co., \$9,657; on Wellesley street, from Sherbourne to Parliament streets, Warren Scharffe Co., \$11,835; concrete sidewalks—Wellesley street, south side, from Church to Jarvis street, walk, per lineal foot, \$1.05, re setting stone kerbing per from lineal foot 28c; Carlton st, south side, Sherbourne to Seaton, same prices, both to T. J. Whittard. Separate tenders were asked for an asphalt or scoria block pavement on McCaul street, and should the work be proceeded with the contract will be given to the Warren Scharffe Co., at the following figures: scoria blocks, including laying, \$3.25 per square yard; gravel under ties and concrete, \$1.15 per cubic yard; concrete to include everything, \$5.20 per cubic yard; maintenance of pavement for additional five years, \$1 per square yard; 2 1/2 inch asphalt surface without concrete base, \$1.48 per square yard.—The contract for the iron work of the new John Street bridge has been awarded to the Dominion Bridge Company, of Montreal.—The Parks and Gardens Committee have accepted the following tenders for the construction of a conservatory in the Horticultural Gardens: Masonry and concrete, William Hall, \$796; carpenter's work, Thomas McIlwain, \$910; painting and glazing, J. Beattie, \$673; galvanized iron work, A. J. McIntyre, \$119; heating J. & G. Gray, \$649.

MONTREAL, QUE.—Messrs. Perrault & Lesge, architects, have awarded contracts for two three-storey stone front stores and dwellings and for a bank building for the Hochelaga bank as follows: masonry and excavation, H. Dufort; brickwork, Gagnon & Brosseau. Same architects have also awarded the following

contracts: steel work of two 3 storey stores and dwellings for E. Marcil to A. E. Loignon, carpenter and joiners' work of three storey stone front store and dwelling for D. Gallery, to John O'Leary; for two three storey stone front buildings for C. A. Briggs, roofing, G. W. Reed; plastering, E. Morache.—Mr. Robert Findlay, architect, has awarded contracts for a residence and stable to be erected on Mause st., for Mr. John Allan as follows: masonry, Heggie & Stuart; brickwork, W. McArthur & Son; carpenters and joiners' work, Joseph Lambert & Fils; roofing, Campbell & Co.; plumbing and heating, Geo. R. Woodburn; plastering, Hirsch Bros.; painting, A. Craig.—Mr. J. J. Browne, architect, has awarded contracts for a three storey stone school building to be erected at Valleyfield, Que., as follows: masonry and brickwork, John C. Hague; carpenter and joiners' work, Hugh G. Reid; painting, McAfee & Eaton, roofing, Geo. W. Reed. M. W. McLea Walbank, architect has awarded contracts as follows for the restoration of a store front on Notre Dame street, occupied by J. Palmer & Son: carpenter and joiners' work, stone, brick, iron work, prismatic lights, plastering and marble work, Beckham & Scott; painting, plate and bevelled glass, W. P. Scott.

BIDS.

WOODSTOCK, ONT.—The following are the tenders received for the Hospital building: Thos. McClay, \$8,977; A. J. Brown, Hamilton, \$9,235; John B. McKay, \$9,535; Clarkson Bros., \$9,600; Griffith and McIntosh, \$9,735; Murray & Sons, \$10,185; C. Leader, \$13,000.

STONE WORKING IN ATHENS.

A writer in one of the London architectural papers, in discussing the above subject, says: It appears that the Athenians worked the marble to an even, but not very smooth, face with a toothed chisel before they placed the blocks in the work, and that they afterwards went over the whole exposed surface and finished it to the greatest smoothness and nicety, but without polish, taking off in this operation about one-fifth of an inch; and this has been the practice on the horizontal as well as the upright surfaces, for the columns of the Propylaea are sunk in to about that depth below the general level. The place intended for their reception was sunk before the lower cylinders were placed, and lest any inconvenience should arise from the wet remaining there before the building was completed, a small channel has been cut from the recess to carry off the water. In the steps the adjoining faces are carefully finished at the internal angles, but both are left rough at the external angles, by which means the accidents and wear which take place during the execution of the work would rarely be of any consequence.

SAFE SCAFFOLDING.

For the benefit of those contractors who carry on business in places where there are no regular scaffolding contractors, as we have in our larger cities, the Southern Architect suggests that they make decks only at stated intervals, using packed putlogs and allowing the putlogs to extend into the building through windows, where it is possible, and through the walls themselves, where there are no windows, and securely fasten them to a row of inner and outer scaffold poles, the putlog holes to be plugged up as the scaffold is taken down; lay a sound deck on these putlogs, and by use of portable three-legged bucks, say five feet high, set on these decks, you can build story on story of platforms, placing bucks, one on top of the other, until the next row of putlogs is reached. This would make the adjusting of scaffolds both quick and easy, and would also greatly eliminate the danger of the present system. The idea of using pulleys for openings in buildings, and using a portable platform that can be raised or lowered at will in painting, etc., has already been put into use with success

and comparatively no danger. The main points of danger seem to come from the following: Flimsy poles, insecurely put together, putlogs having very little purchase in the walls, being badly attached to the poles, and often containing flaws.

MUNICIPAL DEPARTMENT.

EXAMINATION QUESTIONS FOR HEALTH INSPECTORS.

An examination for inspector of nuisances was held at Norwich, Eng., on July 6 and 7, when 18 candidates presented themselves. The following were the questions:

1. What procedure should be taken to obtain an inspection of premises to which permission to enter has been refused?
2. Give a short description of the business of a fat-melter, particularly mentioning the methods to be adopted to prevent the occurrence of nuisance.
3. What are the chief human diseases communicated by milk? In what circumstances does milk become infected? What precautions would you recommend to be carried out in any case of suspicion?
4. How would you take a sample of air from a sewer with the object of having it analysed? What conditions are liable to render brick sewers dangerous to the lives of those who enter them?
5. Give a short descriptive account of the proper sanitary construction of a stable for three horses.
6. What are the methods of disinfection you would recommend in a sparsely populated rural district of large area—(a) for rooms, (b) for clothing? Have fresh air and sunlight any germicidal properties?
7. Sketch the following traps, showing the water level when at rest. State the advantages and disadvantages of each kind: D trap, bell trap, P trap, S trap, Mason's trap.
8. Describe the proper method of constructing drains with stoneware pipes, and state the points to which you would give special attention in laying. Illustrate your answer by sketches.
9. Give the pressure per square inch at the bottom, and at 20 ft. from the bottom, on a water-pipe 35 ft. in length fixed vertically.

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

DEBENTURES WANTED.

Municipalities issuing debentures, no matter for what purpose, will find a ready purchaser by applying to G. A. STIMSON, 9 Toronto Street, Toronto, N. B.—Money to loan at lowest rates on first mortgage.

TESTS OF OUR Thorold CEMENT

Show it is the best Hydraulic Cement for Abutments and Piers for Bridges, Concrete for Foundations, Cisterns, Cement Drain Pipe, Floor for Cellars and Stables, Sewers, and all Mason Work in moist or wet places.

10,000 BARRELS

of Thorold Cement were used in the construction of the Great St. Clair Tunnel. Joseph Hobson, Esq., Grand Trunk Railway, chief engineer, Wm. Gibson, Esq., M. P., contractor.

MANUFACTURED BY
ESTATE OF JOHN BATTLE,
Thorold, Ontario.

Send for a copy of the second edition of the CANADIAN CONTRACTOR'S HANDBOOK. Price, \$1.50; to subscribers, \$1.

MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

J. M. SHANLY
 M. CAN. SOC. C. E. M. AM. SOC. C. E.
CIVIL ENGINEER.
 STANDARD BUILDING - MONTREAL.
 Surveys, Plans, Estimates, &c., for Water Works,
 Sewerage, Water power projects, Bridges, Railways, &c.
 . . . CONSTRUCTION SUPERINTENDENT . . .

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 COUNTY OF YORK,
Consulting Engineer for Municipal Work.
Electric Railways and Bridges.
 COURT HOUSE, - TORONTO.

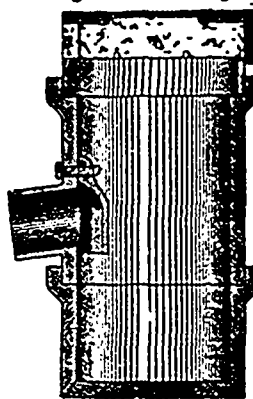
JOHN GALT
 C. E. AND M. E., M. CAN. SOC. C. E.,
Consulting Engineer.
 20 Years' Practical Experience in England, United
 States and Canada in Civil, Sanitary, Hydraulic,
 and Mechanical Engineering.
SPECIALTIES:
 WATERWORKS, SEWERAGE, ELECTRIC RAILWAYS
 Office: Rooms 99 and 100,
 CANADA LIFE BUILDING, - TORONTO.

ALAN MACDOUGALL
 M. Can. Soc. C. E. M. Inst. C. E.
**CONSULTING CIVIL, SANITARY AND
 HYDRAULIC ENGINEER**
 32 East Adelaide St. - TORONTO
 NOTE.—Mr. Alan Macdougall is NOT the
 engineer for the County of York.

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

E. D. MORRIS
 Direct Importer and Dealer in
 Best English and Canadian
PORTLAND CEMENTS
Vitrified, Paving and Fire Bricks,
Fire Clay, &c.
 Offices : 36 Victoria St. - TORONTO

**THE "IMPROVED"
 ST. GEORGE GULLEY**
 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.

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 "GRANTRYX" SMOKE TEST AND
 DISINFECTING MACHINE.**

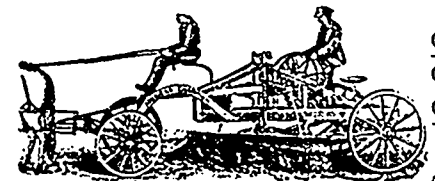
**Artificial . .
 Granite Stone
 . . Pavements**

. . . FOR . . .
**STREETS, SIDEWALKS, BASEMENT
 FLOORS, ETC.**
 The attention of municipalities and others in-
 terested is called to the excellence of this material.
A. GRAHAM
 Sole Proprietor and Patentee
 226 Pleadilly St., - LONDON, ONT.

PORTLAND CEMENT

BEST AND CHEAPEST IN TORONTO.
JOSSON, PETERS and BURHAM Brands for highest class work.
 WHITE HORSE, R. W., IMPERIAL, &c., FROM \$2.00 PER BARREL.
A. E. S. Smythe & Co., - 25 George St., Toronto.
 Telephone 1948 or call and see us.

AMERICAN ROAD MACHINE CO.



MANUFACTURERS OF THE
CHAMPION ROAD MACHINES
CHAMPION ROCK CRUSHER
CHAMPION STEEL ROAD ROLLER
Catalogues Free. Correspondence Solicited
 Address: 124 York St., - HAMILTON, ONT.

CANADA PIPE AND FOUNDRY CO. . . .

MANUFACTURERS OF
Cast Iron Pipes and Special Castings
 Works: MONTREAL AND ST. HENRI, QUE.
CORRESPONDENCE SOLICITED.

THE STANDARD DRAIN PIPE CO.

OF ST. JOHNS, P. Q., (LIM.)
 Manufacturers of
**Standard
 SALT GLAZED FIRE CLAY
 SEWER PIPE.**
**SEWER
 PIPES**
 Double Strength
 Railway Cul-
 vert Pipes,
 Inverts, Vents,
 AND ALL KINDS OF FIRE CLAY GOODS.

THE G. & J. BROWN MFG. CO.

Railway and Contractors' Plant.
BRIDGE BUILDERS
 BELLEVILLE, ONT.

Drummond McCall Pipe Foundry Company,
MONTREAL
 MANUFACTURERS OF
CAST IRON WATER AND GAS PIPES
 WORKS: LACHINE, QUE. PRICES ON APPLICATION.

HAMILTON AND TORONTO SEWER PIPE CO.

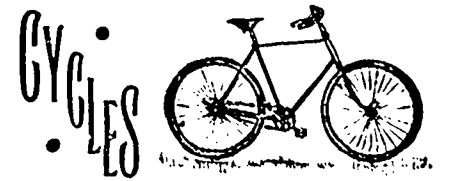
— FOR —
**SEWERS,
 CULVERTS,
 AND
 WATER PIPES.**
INVERTS
 Fire Brick Sewers
Write for Discount.
HEAD OFFICE AND FACTORY: HAMILTON, CANADA.

MUNICIPAL OFFICIALS should see to it that in the erection of town and city PUBLIC BUILD-
 INGS, the installation of water works plant, etc., the advantages of . . .
MINERAL WOOL



are made use of for deadening sound in floors and partitions, insulation of heat and cold, fireproofing,
 etc., also SECTIONAL MINERAL WOOL COVERING for steam pipes, boilers, exposed water
 pipes, etc.
CANADIAN MINERAL WOOL CO., Limited, 122 BAY ST., TORONTO.
 Montreal Agent: LEWIS SKAIFE 707 NEW YORK LIFE BUILDING

THE STRONGEST, LIGHTEST, FASTEST
 AND MOST DURABLE



**King of Scorcher's
 Helical Premier
 AND
 Raglan Wheels**

Pneumatic Cycles from \$60 upwards
 All Wheels from \$75 up, fully guaranteed
 CATALOGUES FREE . . .
GEO. F. BOSTWICK
 24 WEST FRONT ST. - TORONTO
 E. C. HILL, Mgr. Cycle Department.

CENTRAL BRIDGE AND - ENGINEERING COMPANY, (LIMITED)

Peterborough, Ont. WM. H. LAW, Manager and Engineer. MANUFACTURER OF

RAILWAY AND HIGHWAY BRIDGES

Viaducts, Piers, Roofs, Turntables and Girders in Steel and Iron.

Tension members forged without welds. Riveting done by hydraulic or compressed air machines. Specialties: Good workmanship and strict adherence to specifications and drawings.

CAPACITY: 2,000 TONS PER ANNUM.

D. BAER & CO.

BUILDERS OF THE

Bear Patent

COMBINATION - BRIDGE DOON, ONT.

All communications promptly answered.

Prices of Building Materials.

CONDITION OF THE MARKET.

With the country trade the demand for builders supplies is keeping up fairly well, but there has been no marked improvement in the city trade. General hardware is moving freely, the demand being mostly for shelf goods. A moderate jobbing improvement is reported in lead pipe and galvanized iron.

LUMBER.

CAR OR CARGO LOTS.

Toronto. Montreal.

Table listing lumber prices for various types of wood, including clear picks, Am. ins., and various sizes of shingles and shingles.

YARD QUOTATIONS.

Table listing yard quotations for mill cull boards, shipping cull boards, hemlock scantling, and various types of cuttings and shingles.

Toronto. Montreal.

Table listing prices for White ash, Black ash, Dressing stocks, Picks, American inspection, and Three uppers.

BRICK - M

Table listing prices for Common Walling, Good Facing, and Sewer.

Pressed Brick, Per M:

Table listing prices for various types of pressed bricks, including Red, Brown, Roman, Buff, and Ornamental.

Table listing prices for 1st quality, 2nd, and Ornamental bricks at Port Credit.

SAND.

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

STONE.

Table listing prices for Common Rubble, Large flat Rubble, Foundation Blocks, Kent Freestone, River John, and various types of granite and marble.

SLATE.

Table listing prices for Roofing slate in red, purple, and black.

PAINTS. (In oil, lb.)

Table listing prices for various types of paint, including White lead, Red lead, Yellow ochre, and various colors.

CEMENT, LIME, etc.

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

Toronto. Montreal.

Table listing prices for Cement, Belgian, Canadian, Roman, Parian, Superfine, Thorold, Queenston, Napanee, Hull, Keene's Coarse Whites, Calcined plaster, Fire Bricks, Scotch, Lime, Plaster, Hair, and Plasterers'.

HARDWARE.

Table listing prices for Cut nails, Steel, CUT NAILS, FENCE AND CUT SPIKES, 40d hot cut, 30d, 20d, 16d and 12d, 8d, 6d, 4d to 5d, 3d, 4d to 5d cold cut, and PINK BLUED NAILS.

Table listing prices for CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX NAILS.

Table listing prices for FINISHING NAILS.

Table listing prices for SLATING NAILS.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 12d to 30d, 10d, 8d and 9d, 6d and 7d, 4d to 5d, and 3d nails.

Table listing prices for 3 1/2 to 2 1/2, 2 to 2 1/2, 1 1/2 to 1 1/2, and 1 inch nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Table listing prices for 5d, 4d, 3d, and 2d nails.

Toronto. Montreal.

Table listing prices for COMMON BARRIL NAILS, 1 inch, 3/4 inch, and 1/2 inch.

Table listing prices for CLINCH NAILS, 1/2 inch and 3/4 inch.

Table listing prices for SHARP AND FLAT PRESSED NAILS, 3/4 inch and 1/2 inch.

Table listing prices for STEEL WIRE NAILS, 75, 10 and 5.

Table listing prices for Iron Pipe, 1/2 inch, 3/4 inch, and 1 inch.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Structural Iron, Steel B. m., channels, angles, tees, plates, and Sheared steel bridge plate.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

Table listing prices for Galvanized Iron, 6 to 24 gauge.

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

Large index table listing various categories of advertisements such as Architects, Cements, Heating, Roofers, Reproduction of Drawings, Sanitary Appliances, Shingle Stains, Sliding Blinds, Stained and Decorative Glass, Terra Cotta, Wall Paper and Ceiling Decorations, Fire Manufacturers, Parquet Floors, Plumbers, Roofing Materials, and Window Blinds.