

CANADIAN CONTRACT RECORD

*A Weekly Journal of Engineering, Public Works,
Tenders, Advance Information and Municipal Progress*

This Paper Reaches Every Week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers, Leading Civil Engineers and Contractors throughout Canada, and Purchasers of Municipal Debentures.

VOL. 18.

TORONTO, MONTREAL — OCTOBER 16, 1907 — WINNIPEG, VANCOUVER

No 33

THE CANADIAN CONTRACT RECORD

PUBLISHED EVERY WEDNESDAY

As an intermediate Edition of the Canadian Architect and Builder.

THE C. H. MORTIMER PUBLISHING COMPANY

of Toronto, Limited.

Subscription Price, \$5 per annum, payable in advance.

United States, \$3.00 per year

CONFEDERATION LIFE BUILDING, TORONTO

Telephone Main 2362.

Branch Offices.

Room 834, Board of Trade Building, Montreal.

Telephone Main 2399.

780-781 Union Bank Building, Winnipeg.

Telephone 1274

Davis Chambers, 613 Hastings St., Vancouver,

B. C. Telephone 2248

Subscribers who may change their address should give prompt notice of same. In doing so give both old and new address. Notify the publishers of any irregularity in delivery of papers.

Classified Index of Advertisers, Page 15.

To Contractors.—Wanted position as General Foreman, large experience, having superintended contracts costing over one million dollars, excellent references. Address ROBERTS, 497 St. James street, Montreal.

Tenders for Conduits

Tenders will be received by the undersigned up to OCTOBER 19TH, for the completion of a conduit line of 20,400 feet in length.

Tenders will be received for sectional parts of 5,100 feet or for the whole conduit line.

Plans and specifications may be seen at the Clerk's office after the fifteenth of October.

Tenders to be put in for the furnishing of the tile and the completion of the work or for the completion of the work only.

The lowest or no tender not necessarily accepted.

JUNIUS BRADLEY, Town Clerk,
Aylmer, Ontario.

PAVING BRICK for SALE

300,000 Shale Pavers—Seconds

Suitable for
Crossings, Alleys, Buildings or
Foundations

Low price in Car Lots

Robert Y. Ogg

75 Majestic Building, DETROIT, MICH.

Debentures for Sale

TOWN OF UXBRIDGE

Sealed tenders will be received by the undersigned up to 8 o'clock p.m. on FRIDAY THE 25TH DAY OF OCTOBER, 1907, for the purchase of \$25,000.00 4 per cent. debentures, payable in twenty years, on loan to the Palmer Piano Company, Limited. Particulars from the undersigned. No tender necessarily accepted.

J. W. GOULD, Clerk.

CALGARY, ALTA.

STREET RAILWAY SYSTEM

Sealed tenders addressed to S. J. Clarke, Esq., Chairman of Public Works Committee, Calgary, Alta., will be received until 12 o'clock at noon on FRIDAY THE 1ST DAY OF NOVEMBER next.

(a) For the construction of about 12 miles of St. Car track and overhead trolley work in the City of Calgary.

(b) For building a steel bridge with concrete abutments over the Elbow River in the City of Calgary.

(c) For 6 semi convertible cars with electrical equipment &c.

Separate tenders will be received for each of the above.

An accepted bank cheque, payable to the City Treasurer for 5% of the amount of the bid, must accompany each tender.

Plans, specifications and forms of tender can be obtained upon application at the City Engineer's Office, Calgary.

The lowest of any tender not necessarily accepted.

R. E. SPEAKMAN, C. E.,
City Engineer.

City Engineer's Office,
Calgary, Alta., Sept. 24th, 1907.

FOR SALE

2 Cableways, 750
feet span, and 20 three-
yard Steel Skips, all
practically as good as
new. Apply

M. L. QUILLINAN,

Imperial Bank Chambers,
Niagara Falls, Ont.

Wanted Position

as Foreman or Inspector of Sewers or Concrete work of any kind; accustomed to plans and profiles. Address Box 116, CONTRACT RECORD, Toronto.

WANTED

CITY ENGINEER FOR STRATFORD

Applications addressed to Ald. H. Pauli, Chairman of the Board of Works, to be presented up to FRIDAY, OCTOBER 18TH, for the position of City Engineer, Stratford. Engineer to devote his whole time to the City. State salary and experience.

15-INCH PIPE SEWER

Tenders received by the undersigned up to 7 p. m. on SATURDAY, 26TH OCTOBER, 1907, for building a sewer on Spadina Road. Profile and specifications can be examined at the Township office, No. 108 Victoria street, Toronto.

Any tender not necessarily accepted.

P. S. GIBSON & SONS,

Work Township Engineers.

Willowdale, 18th October, 1907.

DEBENTURES FOR SALE

VILLAGE OF GRAND VALLEY LOCAL IMPROVEMENTS

Sealed tenders will be received by the undersigned up to 8 o'clock p.m. on FRIDAY THE 1ST DAY OF NOVEMBER, 1907, for the purchase of \$3,773.60 Debentures, at 5 per cent., payable in twenty equal annual payments of \$302.81.

Further particulars from undersigned. No tender necessarily accepted.

WM. MCINTYRE,

Clerk, Grand Valley.

TENDERS FOR

15 Miles of Water Pipe

Sealed tenders addressed to the Chairman of the Board of Control for supply of approximately 15 miles of assorted water pipe, delivery of same to commence about May 15th, 1908 or as soon as navigation opens, will be received at the office of the undersigned up to noon on FRIDAY, NOVEMBER 15TH, 1907. Specifications and forms of tender may be obtained at the office of H. N. Ruttan, City Engineer, Winnipeg. Each tender must be accompanied by an accepted cheque payable to the order of the City Treasurer or cash deposit for the sum called for in the form of tender supplied, which will be subject to forfeiture in case of failure on the part of the successful tenderer to enter into a written contract with approved sureties if called upon to do so. The lowest or any tender not necessarily accepted.

M. PETERSON,

Board of Control Office,
Winnipeg, Sept. 25th, 1907.

There is a vacancy at Stratford, Ont., for a city engineer, and Alderman H. Pauli, Chairman of the Board of Works, invites applications for the position up to October 18th.

CONTRACTS OPEN.

MIMICO, ONT.—A by-law is being prepared to borrow \$7,000 for purposes of school building.

WELAND, ONT.—Plans have been prepared for a new hospital and tenders will shortly be taken.

COBALT, ONT.—C. J. Gibson, of Toronto, is preparing plans for a 3-storey Y.M.C.A. building to be erected here.

HAMILTON, ONT.—Extensive alterations and improvements, to cost some \$10,000, are being planned for the I.O.O.F. Hall.

PORT ARTHUR, ONT.—The time for sending in tenders on the Algoma street bridge has been extended two weeks.

INGERSOLL, ONT.—The Board of Health have condemned the John Street school and a new building will likely have to be erected.

CALGARY, ALTA.—The hospital board have finally selected the plans of Lawson & O'Gara, of this city, for the new building.

QUILL LAKE, SASK.—A company is being organized to exploit the discovery of a large brick clay deposit on the property of R. A. Gordon.

LETHBRIDGE, ALTA.—It is reported that the C.P.R. will likely build a line from this town in a north easterly direction towards Saskatoon.

OSHAWA, ONT.—The town clerk, Thomas Morris, wants tenders up to October 28th for \$5,000 five per cent 30 year public school debentures.

PORTAGE LA PRAIRIE, MAN.—John R. Earls, Secretary Treasurer, wants tenders up to October 25th, for \$1,500, six per cent debentures.

STRATFORD, ONT.—A scheme is on foot for building a large skating and hockey rink on Cobourg street and the formation of a company is in progress.

AYLMER, ONT.—The ratepayers have approved of a by-law to raise \$10,000 for extensions to the waterworks system for the Canadian Condensed Milk Company.

HAVELOCK, ONT.—G. A. Gillespie, a prominent dairyman of Peterboro, delivered an address at this place yesterday evening in favor of the erection of a creamery.

GREENOCK, ONT.—Tenders will be received by J. J. Donnelly, Clerk, Greenock township, up to November 1st, for \$5,000 four per cent 20 year bridge debentures.

GUELPH, ONT.—W. H. Cutten, of this city, and his son, A. W., of Chicago, have completed plans for the erection of an up-to-date block on Quebec Street next season.

MELITA, MAN.—W. F. Thomas, Secretary Treasurer, will receive tenders up to November 4th, for \$5,000, five per cent 20 year debentures for local improvements.

BERLIN, ONT.—A campaign has been inaugurated by Manager Copen, of the local theatre, in order to raise an approximate sum of \$50,000 for a new opera house.

ST. ANDREWS, N.B.—Votes of the ratepayers will be taken on October 22nd on a by-law to raise \$12,500 by debentures for the provision of a deep water landing in the harbor.

KINCARDINE, ONT.—Negotiations are in progress with a view to the establishment in this town of a piling and engineering works by the Industrial Financial company of Toronto.

GLEN MORRIS, ONT.—The bridge at this place has been inspected by the roads and bridges committee of the

county council who have decided to erect a new \$14,000 structure after the winter.

MILFORD, N.B.—A syndicate headed by David McLeod are considering the establishment of large cement works at Green Head. It is reported that the proposed industry will be capitalized at \$1,000,000.

LONDON, ONT.—The Adelaide street Baptists have decided to carry out alterations and additions to their building to the extent of about \$4,000. A committee has been appointed to put the work in hand at an early date.

PERRY SOUND, ONT.—Lack of interest in the by-law to loan \$30,000 to Shortells, Ltd., for the establishment of a wood alcohol factory, resulted in its defeat. Had another thirty votes been polled the measure would have passed.

ST. CATHARINES, ONT.—We understand that overtures have been made by the city to George White & Sons, manufacturers of threshing machines, with a view to the removal of the firm's plant from London to this city.

STRATHCONA, ALTA.—By-laws to grant a franchise to the Strathcona Radial Tramway Company and to borrow \$56,000 for purposes including extensions to the water and sewerage system, will be submitted to the ratepayers on October 30th.

BURLEIGH FALLS, ONT.—The government will likely raise the head of the water by building a six foot addition to the present locks. A new dam and the forming of a large reservoir to develop 6,000 horse power are also in contemplation.

LACHINE, QUE.—It is reported that English capitalists are furthering a scheme for a \$3,000,000 locomotive and engineering works to be built here. The promoters have purchased a site and are negotiating for a \$50,000 bonus and taxation immunity.

MOOSE JAW, SASK.—The council have offered a fixed assessment of \$15,000 to the Saskatchewan Sash and Door Company. The company have however asked for an assessment of \$10,000 and threaten to close their factory if the required concession is not granted.

ST. SIMEON, QUE.—Fred Gelinas, Secretary, Department of Public Works, Ottawa, wants tenders up to November 4th, for the construction of a head block to the wharf. Specification at office of A. R. Decary, Resident Engineer, Post Office, Quebec, on application to the local postmaster and at the department.

HULL, QUE.—The City council have granted a ten years' immunity from taxation to a company which will erect a \$60,000 factory for the manufacture of wood alcohol, turpentine, tar and charcoal.—Negotiations continue for the establishment of a large biscuit factory, and it is considered probable that the city will get this industry.

COLBORNE, ONT.—Fred Gelinas, Secretary, Department of Public Works, Ottawa, wants tenders up to October 24th, for the construction of a wharf and stone approach at this place. Plans and specifications may be seen at office of J. G. Sing, Resident Engineer, Confederation Life Building, Toronto, on application to the local postmaster and at the department.

LA PRAIRIE, QUE.—Tenders are invited by Fred Gelinas, Secretary, Department of Public works, Ottawa, up to November 4th, for the construction of two ice piers in the river St. Jacques. Specification at office of J. L. Michaud, Resident Engineer, Merchant's Bank Building, Montreal, on application to the local postmaster and at the department.

BRANTFORD, ONT.—The corporation give notice of the undertaking of pavement and sewerage work to cost \$19,785, the expenses to be borne by means of debentures.—The Grand Valley Railway are on the point of making many extensions, including several improvements to the street railway in this city and the building of several branch lines. Through connection will be established between Hamilton and London.—Plans are being prepared for the erection of a new Masonic Temple.

CHATHAM, ONT.—Tenders are invited by Fred Gelinas, Secretary, Department of Public Works, Ottawa, up to October 28th, for the construction of a concrete revetment wall at Tecumseh park; up to November 4th, for the construction of pile protection works at St. Joseph's Hospital, and also up to November 4th, for pile construction work at McGregor's Creek. Specifications at office of H. J. Lamb, Resident Engineer, London, Ont., on application to the local postmaster and at the department.

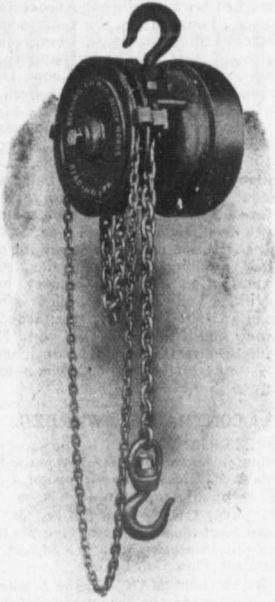
VANCOUVER, B. C.—Recent building permits include:—Mrs. Tait, frame dwelling, Fifth street, \$2,000; J. M. Leonard, frame dwelling, First avenue, \$1,900; D. G. Gray, frame dwelling, Robson street, \$3,000; J. Campbell, frame dwelling-house, Haro street, \$6,000; Pacific Coast Fire Insurance company, frame dwelling, Homer street, \$3,000; D. S. Baynes, frame dwelling, Eighth avenue, \$2,500; Garrett & Brown, frame dwelling, Eighth avenue, \$2,500; J. W. Bishop, frame dwelling, Princess street, \$1,400.

VICTORIA, B. C.—C.W. Brown, of this city, has prepared plans for the erection of new wharves on the water front recently acquired by him. The work will shortly be put in hand and is to be completed for early spring. The cost approximates \$40,000.—To enable the university to take advantage of Andrew Carnegie's offer of an equal sum for a library building, a former graduate, now resident in Hamilton, Ont., has donated \$50,000 to the institution. The building will be located on the west of the present edifice and plans will shortly be prepared.

PETERBORO, ONT.—A committee has been appointed to consider the erection of a Methodist church in the south end of the city.—It is reported that F. W. Bird & Son, manufacturers of Paroid roofing and water proof papers, have been looking for a factory site in this locality.—J. Francis Brown, architect, of Toronto, was recently in the city examining the proposed site of the new Park street Baptist church.—The shareholders and directors of the new Dominion Tool Company met for the purpose of organization the other day, when a by-law was passed to lease a site for a factory.

OTTAWA, ONT.—An important real estate deal has resulted in Joseph and James Wilson coming into possession of a large block on Preston street valued at \$15,000. The property will be divided into lots and houses erected.—The authorities of the Maternity Hospital are endeavoring to raise funds for the addition of a new wing to their building.—Gilbert and Meredith, architects, 193 Sparks street, are taking tenders for the foundations of the proposed G.T.R. station and hotel. It is reported that the footings and foundations of the passenger station and concourse, baggage annex, subway, and of the Chateau Laurier hotel, are to be put in position this fall.

BRANDON, MAN.—Tenders will be received up to October 23rd, for \$49,000 5 per cent school debentures.—A. D. Rankin is contemplating large alterations to the eastern portion of the Syndicate Block. An electric elevator and new

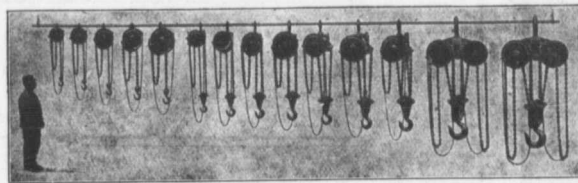


READING

Multiple Gear

CHAIN HOISTS

Work more easily than any other Chain Blocks on the market. They also last longer because their design reduces friction to a minimum. Let us quote you.



Made in all sizes. Prompt shipment.

MUSSENS LIMITED

Railway, Mining, Municipal and Contractors' Supplies

Head Office: MONTREAL

Branches: QUEBEC, TORONTO, WINNIPEG, VANCOUVER

heating plant will be installed and the cost of the total improvements to be effected will be in the neighborhood of \$15,000.—Excavations are in progress for the building of a large addition to the C.P.R. boiler house, estimated cost, \$12,800.—Mayor Clement interviewed Sir Thomas Shaughnessy on his visit to the city last week, with regard to the enlargement of the depot, and received satisfactory assurance that plans for the proposed work had been put in hand.

WINNIPEG, MAN.—The trustees have finally decided to locate the proposed consumption sanitarium at Ninette. Buildings will be erected to the value of some \$50,000, and operations will probably commence early in the spring.—Wardell & Nichols, architects, have just taken tenders for the foundations and basement of a building on Portage avenue for the Ontario, Manitoba & Western Land Company, Ltd.—Tenders will be received until October 19th, by M. Peterson, Secretary, Board of Control, for the erection of a board fence with gates etc., at the city yards. Specification at office of City Engineer.—It is understood that the power tenders will not be awarded until Mayor Ashdown's return from England.

TORONTO, ONT.—The Board of Control have granted the application of the school trustees to add the \$15,000 received from the sale of the Parliament street school to the \$18,000 already appropriated for the Leslie street school.—The Medical Council have decided to renovate the present building of the Ontario College of Physicians and Surgeons which they will use for a year. They will afterwards erect a \$65,000 structure according to plans prepared by Darling & Pearson.—Tenders are invited by H. F. McNaughton, Secretary, Public Works Department, up to Oct. 24, for the heating, plumbing, ventilation and electric wiring of the new Normal schools at North Bay, Peterboro, Stratford and Hamilton. Specifications at the Depart-

ment; estimated cost of work, \$50,000.—Notice is given of the civic intention to effect local improvements as follows: grading, \$2,571; sewer construction, \$11,874; road ways, \$20,927, and concrete curbs, \$1,330, the cost to be assessed upon frontages.—The Board of Control have agreed to pay the General Hospital 70 cents a day for city patients; they will erect a hospital for these patients in the near future.—The site has been purchased on the north-east corner of Dupont and Huron streets where a store and dwelling will be erected.—Work has commenced at Chestnut Park Road upon the erection of a residence to cost \$18,000, for Mr. Harry White; also upon a \$15,000 house for Mr. O'Brien, on the old Price property overlooking Rosedale ravine.—The premises, 58-64 Duchess street, have been acquired by a company who it is reported will erect a \$20,000 factory on the site.—An extensive addition to the Leslie street school has been recommended by the property committee of the Board of Education.—The largest building permit of the past week was taken out by the Brunswick Balke Callendar Company, for a 2-storey brick factory on Pacific avenue, to cost \$30,000. Other permits recently issued include:—J. A. Temple, 2-storey brick dwelling, Forest Hill road, \$5,000; H. Willis, 2½-storey rough cast dwelling, Myrtle avenue, \$2,200; Wm. Hill, 2-storey brick dwelling, Dunn avenue, \$2,500; C. Coulter, pair 3-storey semi-detached brick stores and dwellings, College street, \$7,000; Wickham Bros., 2-storey brick dwelling, Bartlett avenue, \$2,500; C. E. Proctor, pair 2½-storey semi-detached brick dwellings, Concord avenue, \$5,000; C. H. Dennis, pair 1½-storey semi-detached brick dwellings, Gall-y avenue, \$4,000; Richard Grundy, pair 2-storey semi-detached brick dwellings, Perth avenue, \$4,000; J. Silverthorn, 2½-storey brick dwelling, Concord avenue, \$3,000; J. W. Parker, 2-storey brick dwelling, Hewitt avenue, \$3,500;

Robt. Locke, pair 2-storey and attic semi-detached brick dwellings, Avenue road, \$7,500; James Muire, pair 2-storey semi-detached brick dwellings, Fern avenue, \$4,000; Jas. H. Maguire, 2½-storey brick dwelling, Clinton street, \$3,000; Dominion Bridge Co., 2-storey brick dwelling, Sorrauren avenue, \$3,000; H. H. Fudger, 1½-storey stable, greenhouse and garage, Maple avenue, \$3,000; J. J. Downey, pair 2-storey brick dwellings, Lynd avenue, \$4,000; Brunswick Balke Callendar Co., 4-storey brick factory, Pacific avenue, \$30,000; A. F. Wickson, 2-storey brick dwelling, Forest Hill road, \$5,600; W. D. Hutson & Sons, 2-storey and attic brick dwelling, Poplar Plains road, \$5,000; Geo. Dickson, 3-storey brick addition, Ladies' College, Bloor street, \$6,000; John Maloney, 3 attached 2-storey and attic brick dwellings, Margueretta street, \$7,000; J. McGonegal, 2½-storey brick dwelling, Bain avenue, \$2,750.

CONTRACTS AWARDED.

PETERBORO, ONT.—The successful tenderer for heating the new music hall, was A. E. Micks, who will install a Kelsey warm air generator.

PARIS, ONT.—John Carnie, of this town, has been awarded the contract for a fire proof storage vault, 50 x 80 feet, for the Paris Plow Co., Ltd.

BRANDON, MAN.—Brown & Mitchell have secured an important contract in the installation of the heating plant for the winter fair building at \$10,300.

GUELPH, ONT.—The contract for the new coal house to be erected at the O.A.C. has been let to H. A. Clemens & Co., of this city; estimated cost, \$10,000.

PORT ARTHUR, ONT.—M. G. McKinnon has secured the contract to build the new police station, at \$11,225. Captain Shear has successfully tendered to McKenzie & Mann for the delivery of 350,000 ties for Canadian Northern railway construction.

TORONTO, ONT.—J. Berridge & Co.



You Cannot Afford to Take Chances

Poor Sewer Pipe is a menace to health and very expensive to replace.

Purchase the best and get it when you want it. Ask for full information at the nearest of our three factories.

THE CANADIAN SEWER PIPE CO.

HAMILTON, ONT. TORONTO, ONT. ST. JOHN'S QUE.



THE CANADIAN STANDARD

STAR

THE CANADIAN PORTLAND CEMENT CO., LIMITED

502 TEMPLE BUILDING,
TORONTO

203 BOARD OF TRADE BUILDING
MONTREAL

PLUMBERS' AND STEAMFITTERS' SUPPLIES

Iron Pipe 1-8 in. to 12 in. carried in stock

Malleable Fittings Cast Iron Fittings

Lead Traps and Bends

Valves Tools Lead Pipe Pig Lead

PROMPT SHIPMENT

Somerville Limited

TORONTO 59 Richmond St. East

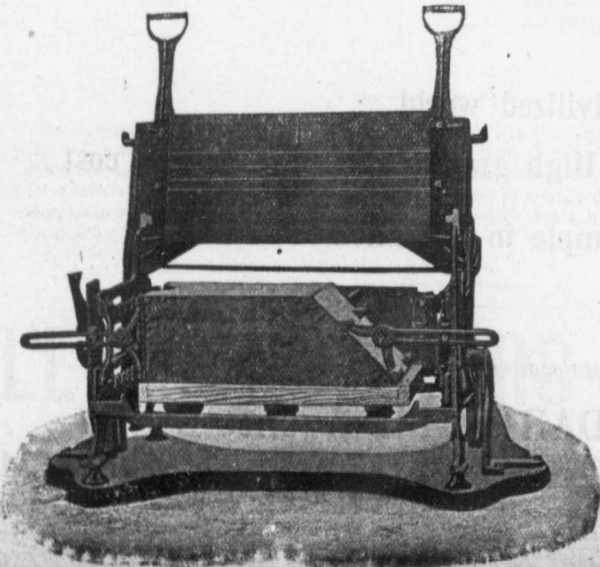
... Speaks For Itself ...

THE MILES CONCRETE BUILDING BLOCK MACHINE

Makes 40 Different Sizes of Stone in Any Design, as well as the Specials, viz.:

Water Table, Gable, Circle, Angle, Chimney, Cornice, Pier Blocks, etc.

Catalogues and Information Cheerfully Furnished.



This Machine makes all blocks face down—"the only practical way"—allowing of a richer and finer facing, producing blocks that are perfect in appearance and impervious to moisture.

Let us tell you how the "Miles" will pay for itself over any other machine in three months' operation.

Manufactured and Sold by

**VINING BROS.
M'fg. Co.**

Niagara Falls. - Can.

Sales Agent for Quebec:
T. A. CHADBURN, 242 St. James Street,
MONTREAL.

have secured the contract for all trades in the erection of a pair of houses and stabling at the corner of Cecil and Huron streets at \$10,000; architects, Stroud and Sanders, Continental Life Bldg. The same firm have also been awarded the contract for all trades in the remodeling for an apartment building of the Lucas house, north west corner of Louisa and Teraulay streets.—In connection with the work on the various city schools the following contracts have been awarded: Kent street school, mason work, S. Lucas and Son, \$13,918; carpentry, M. Hutchinson, \$9,359; painting, J. Phinimore, \$780; plumbing, Fred Armstrong & Co., \$1,050; plastering, Thos. Sande & Son, \$1,291; tinsmithing, Flower & St. Ledger, \$510; heating and ventilating, Fred Armstrong Co., \$3,500; heat regulators, Johnston Heat Regulator Co., \$3,298; structural steel, Reid and Brown, \$928.—Howard Street School—Mason work, H. Lucas and Son, \$6,993; carpentry, J. Campbell, \$4,500; painters, J. Phinimore, \$410; plumbing, Fred Armstrong Co., \$1,050; plastering, Beaver and Co., \$797; roofing, W. E. Dellon and Co., \$528; structural steel, Dominion Steel Bridge Co., \$420.—Mason work at Church, Duke and Jesse Ketchum Schools, Self Bros., \$300. Grading and sodding at Riverdale, John Lamon, \$975.

FIRES.

Saw and grist mill of J. A. Vaughan, and residence of J. S. Titus, at St. Martins, N.B., total loss, \$10,000.—Saw mill of James Murchie Sons' Co., Deer Lake, N.B., loss \$15,000.—Buildings of Winnipeg Paint & Glass Co., Winnipeg, Man, loss, building only, \$75,000.—Maple Leaf Hotel the property of H. Dagneau, South Woodsley, Ont. loss unknown.—R. C. Church, Cote St. Paul, Montreal, Que.,

loss \$75,000.—Town Hall at Meaford, Ont., estimated loss, \$2,000.

BIDS.

WINNIPEG, MAN.—An offer has been received from the Anglo-Canadian Engineering Company of London to take the power bonds at 90 in payment for the construction of the power plant at Point du Bois. This was the only bulk tender submitted.

NOTES.

At Yorkton, Sask., there has been recently established a Drukhorobrickyard which bids fair to become a most important industry. The plant has a capacity of 50,000 bricks a day, and the expenses of installation are said to have approximated

\$50,000. In one respect the concern is unique: no wages are paid. All the proceeds of the business go into the Doukobor treasury and the workers are supported by the community.

Attention has been directed to the serious delay that will be caused by the Quebec bridge disaster to the different railway connections opening up the Lake St. John district and the northern territory. In the absence of transportation the carrying out of various industrial enterprises will have to be deferred for a considerable time and it is estimated that it will take two years to regain the conditions that existed before the accident.

EDISON PORTLAND CEMENT COMPANY



"Neat tests are of less value than those of the briquettes made with sand and cement. The fineness of the cement is important, for the finer it is the more sand can be used with it."

(Abstract from "Specifications for Portland Cement," issued by the United States Navy Department, June 12, 1905.)

CANADIAN SALES AGENTS:
Stinson-Reeb Builders' Supply Co.
MONTREAL, CANADA

85 per cent. Thru 200 The Finest Ground Portland Cement Manufactured.
98 per cent. Thru 100

Portables The Gravity Concrete Mixer

Reduction in Prices

Used all over the civilized world

High grade Concrete at a low cost

Simple in operation

For Catalogue and Prices Address

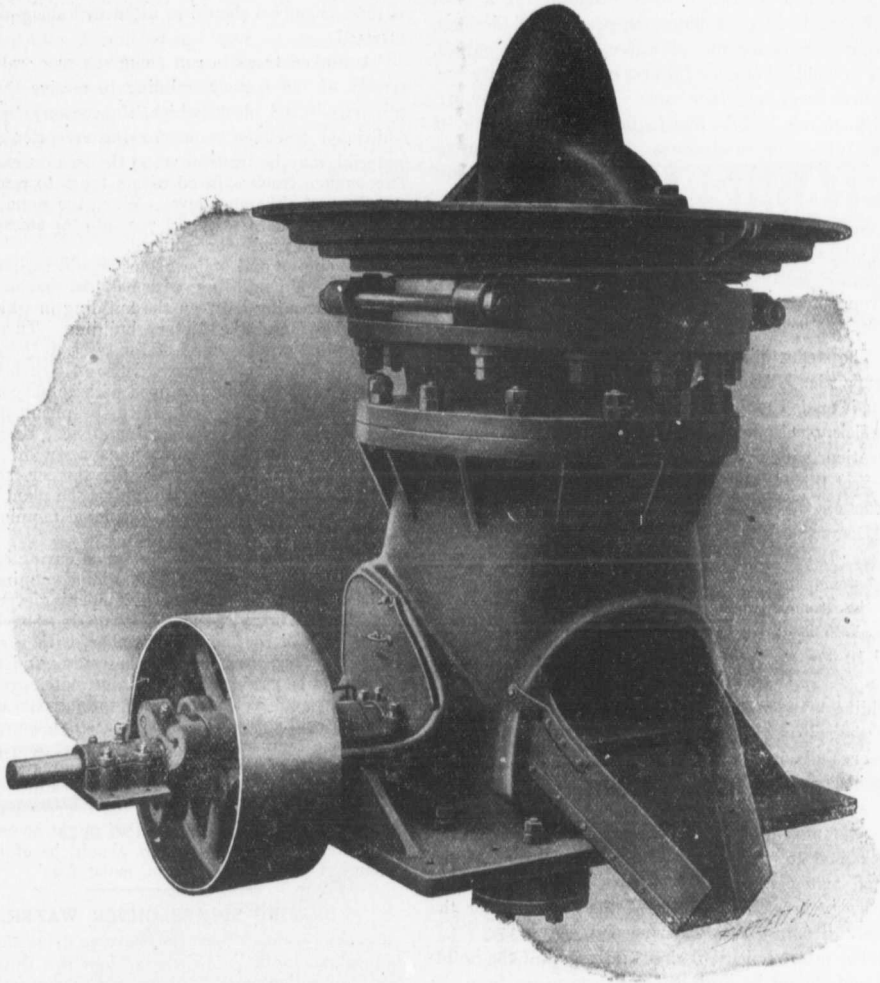
E. F. DARTNELL, Agent

157 St. James Street, MONTREAL

Telegraph Address, Dartnell, Montreal

Bell Telephone Main 2984

Rock Crushing Plants



The demand for crushed rock is increasing rapidly for railroad ballast, Portland cement, fluxing purposes in smelting plants, "Good Roads," etc. Bulletin 1411 describes the machinery and appliances, including the Gates "K" gyrotory breaker shown above, used in MODERN ROCK CRUSHING Plants. Included also are sectional plans of a large number of plants in active operation, from which intending purchasers may get valuable hints in preparing data for plans and specifications.

ALLIS-CHALMERS-BULLOCK LIMITED

Head Office and Works: **MONTREAL**

District
Offices :

{ MONTREAL: Sovereign Bank Bldg.
NEW GLASGOW N.S.: Telephone Bldg.
WINNIPEG: 251 Notre Dame Ave.

TORONTO: Traders Bank' Bldg
NELSON: Josephine St.
VANCOUVER: 416 Seymour St.

STEAM CURING PLANT FOR CONCRETE BLOCKS.

The curing of concrete blocks as explained by J. Augustine Smith, of the Ideal Concrete Machinery Company, South Bend, Ind., is given as follows in "The Cement World": "The essential for a good block outside of good materials, proper and thorough mixing, correct amount of water, etc., is the curing. It is probable that more failures come from faulty curing than from any other cause. As explained by Mr. Smith, this is largely due to the human elements of forgetfulness or carelessness. At the time when he should be sprinkling his attention is called to something else, and so it goes.

"Now the steam curing plant does away with all this. It eliminates the human factor—that same old factor which causes most of the disasters on railroads, as you know. Besides, steam curing makes a better block.

"The steam plant should be erected with the idea of expansion. A manufacturing building in which the stone is made should be erected with an idea of having a sufficient volume of light where the machines are in operation, windows being placed in sufficient number to effect this result. The best light to secure for this purpose is the northern light.

"Doors should be placed at either end of the building for the entrance or delivery of cars, or material. The steam curing chambers for the curing of stone by the steam process should be individual. These chambers should be at least 40 feet long, 7 feet wide and 10 feet high. In the plans shown we have allowed a 20 foot working space the full length of the building between the outer wall and the steam curing chambers in which to install the concrete block machinery, mixers, special machinery, moulds, etc. This provides sufficient space in the rear of the machines for a car to be installed to receive the stone taken from the machine. It also provides space for a raised track next to the outer wall for the delivery of the mixed material to the block machines, as well as a transverse track in the rear of the machines for the supply of empty cars when needed.

"The mixer is located close to the end of the building and should be equipped with conveyors from the material yard. The material yard is supplied with steam railroad track connections. From the block machines proper, and directly in the rear of each machine, a track is run into each steam chamber for the transfer of the stone when made. Spring cars should be used for transferring the green blocks to the steam chambers. Sliding doors should be hinged to the front of the steam chambers so as to give all the space possible in the area of the building occupied by the machinery.

"Particular and careful attention has been given to the subject of the best method of steam curing concrete stone. Partition walls divide the steam compartment into individual chambers as above described, in which the stone is placed to be cured. Each individual chamber or room will hold five cars. The rear of these chambers should be fitted with doors to swing outward.

"A sunken track is run along the rear wall transversely of the factory building to receive the cured or partly cured block, which, if necessary to supply additional trackage room for the reception of new material, may be transferred to the surplus chambers. This sunken track is fitted with a truck to receive the cars from the chamber level. When the stone is thoroughly cured it can then be run into the storage yard and piled up ready for delivery.

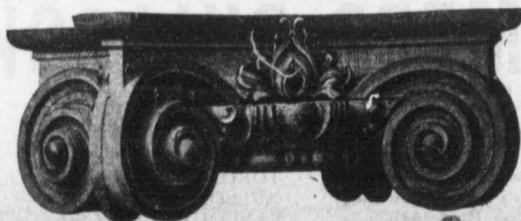
"The engine and boiler rooms should be individual from the main building, with not less than a 20 foot space intervening between the building in which they are enclosed and the factory building. Turn tables are supplied at either end of the track to the right or left of the factory for convenience in switching. The engine room should be equipped with an air condenser for supplying compressed air to the pneumatic tampers used in manufacturing the stone. Each pneumatic tamper used requires a capacity of at least thirty-one cubic feet free air per tamper, and provision should be made in equipping the plant to supply sufficient equipment for additional tamping capacity.

"The steam chambers in the steam curing compartments should be supplied with piping running along the base of the side walls, with an opening every seven feet for the introduction of steam in the chamber, and along the roof of the chamber, with a space of one foot intervening between the ceiling and the piping, should be run a cold water pipe, with spray heads located every 3 feet 6 inches for the purpose of introducing a cold spray of water in case it is necessary to reduce the temperature of the chamber and produce condensation of the steam therein in greater volume.

To cure stone properly, the temperature of these chambers should never exceed 105 degrees Fahr. and no steam should be used but what might be called exhaust steam. The atmosphere should be of the consistency described as a warm, moist fog."

DRIVING SPIKES UNDER WATER.

Contractors may not often have to drive spikes under water, but the knowledge of how this usually difficult operation may be done with comparative ease may not come amiss. For this purpose a piece of iron pipe, large enough to hold the spike loosely and small enough to keep it upright, is used, says the "Electrical World." A steel drift slightly longer than the pipe is placed in the pipe and used to transmit the hammer blows to the spike. The length of pipe used will depend on the depth of water and the drift should be of sufficient length to permit a hand hold above the pipe. By means of this expedient spikes can be driven in several feet of water and at any angle desired, as the spike will necessarily go at the angle at which the pipe is held.



McCormack & Carroll

82 Adelaide Street E., TORONTO

Manufacturers' Compo Ornaments and
Canadian Representatives Ornamental
Product Co., Detroit, Mich.

WRITE FOR CATALOGUE

PHONE MAIN 12037

RUDYARD KIPLING ON WINNIPEG.

"I went away for fifteen years, which in the life of a nation is equivalent to about fifteen minutes in the life of a man. I come back, and I find the Winnipeg of to-day a metropolis. This morning I have been over, perhaps more than sixteen or twenty-two miles of asphalt, looking at some small part of the principal portions of your most marvellous city. I have seen all the buildings that you have created for your convenience, for your trade, for your necessities, for your justifiable pride and your luxury, and above all for the education of your children.

"The visions that your old men saw fifteen years ago I saw translated to-day into stone and brick and concrete. The dreams that your young men dreamed I saw accepted as the ordinary facts of everyday life, and they will, in turn, give place to vaster and more far-reaching imaginations. Gentlemen, this record of unsurpassed achievement, and my admiration for it, is as keen as my envy. . . .

"Gentlemen, you are fortunate beyond most other communities. Your own labor, your own sacrifice have given you material prosperity in overwhelming abundance, and the gods above have not denied to you the light that shows the true use and the true significance of that material prosperity."

FINANCIAL ITEMS.

Edmonton has disposed of a block of debentures amounting to \$679,873 at 93, with interest at the rate of 5½ per cent., to a number of Scotch capitalists. The wisdom of patience, in "municipalities and powers" as in individuals, is shewn by the improved terms of this sale over previous offers. Not so very long since, the city received an offer from a company to buy \$80,000 worth at 86, at about six per cent.

Berlin, Ont., has been authorized by the Ontario Railway and Municipal

Board to increase the rate of interest on \$122,000 local improvement debentures from 4½ to 5 per cent.

Kingston, Ont., has practically disposed of a \$100,000 block of debentures bearing 4½ per cent. interest.

When corresponding with advertisers please mention
CANADIAN CONTRACT
RECORD

THE PRIESTMAN EXCAVATOR AND DREDGER

is used throughout the world. Will do more work with less labor, at a less first cost than any Excavator at present in use in Canada. For particulars write

G. P. WALLINGTON,
Canadian Representative,
11 Front Street East, Toronto

CORRUGATED
WRITE FOR PRICES
METALLIC ROOFING CO.
LIMITED.
TORONTO, CANADA.
IRON

JOSSON CEMENT

Is the Highest Grade Artificial Portland Cement and the Best for High Class Work. Has been used largely for Government and Municipal Works.

TO BE HAD FROM ALL CANADIAN DEALERS OR FROM

C. I. DE SOLA, 180 St. James Street, MONTREAL

THE JOHNSON CORRUGATED STEEL BAR

FOR



REINFORCED CONCRETE

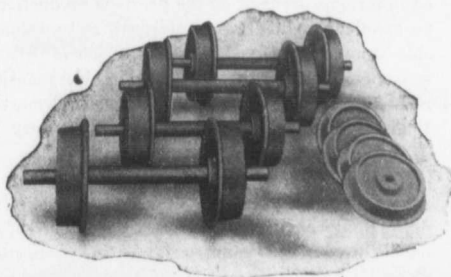
Manufactured by

THE CORRUGATED STEEL BAR CO. OF CANADA, LIMITED

Operating under Johnson Patent No. 91690 and by license of Sir Wm. Mather.

Office: Coristine Building, MONTREAL

CAR WHEELS THAT GIVE SATISFACTION



Our wheels are made of the best quality iron, chilled or unchilled. We have reinforced them when we found that extra strength would add to the life of the wheel.

AXLES FURNISHED FOR ANY GAUGE OF TRACK

Send for Catalogue

GEORGIAN BAY ENGINEERING WORKS, MIDLAND, ONT.

THE STANTON IRON WORKS CO.

Near NOTTINGHAM, ENG.

Largest Makers of Cast Iron Pipe in the World

LIMITED

Annual Output
100,000 Tons



CAST IRON PIPE

SIZES: 1½ in. to 72 in. diameter, 9 ft. and 12 ft. lengths.

Irregular Castings for Gas, Water, Sewerage Work, Steam, Hydraulic and Pump Installations. Also makers of Cast Iron Tanks, Columns, Girders, Etc.

W. BEVERLEY ROBINSON

AGENT FOR CANADA
Board of Trade Building

MONTREAL

HOW PORTLAND CEMENT IS MANUFACTURED

S. A. Morgan, a cement expert of Evansville, Ind., read a paper recently before the Evansville Academy of Science, on "Portland Cement." It was so comprehensive that the "Evansville Journal" printed it in full, and we republish it for the benefit of our readers. The paper follows:

Portland cement as ordinarily classified is of three kinds, viz.: (1) True Portland cement; (2) slag cement; (3) natural cement.

The Association of German Portland Cement Manufacturers has given a definition of Portland cement in a practical manner, as follows: "Portland cement is only such an article as is made by calcining a thorough mixture, consisting essentially of calcareous and clayey substances, and then grinding same to the fineness of flour."

This means that true Portland cements are obtained by burning to the point of insipient vitrification either hydraulic limestones or mixtures of argillaceous limestones and afterward grinding the product to a fine powder.

For instance, Atlas cement is made of cement rock and limestone at North Hampton, Pa. Buckeye cement is made of Maryland clay at Bellefontaine, Ohio. Lehigh cement is made of marl and limestone at Mitchell, Ind., and in Lehigh Valley, Pa.

These materials are mixed in a definite absolute proportion, and all the cement mills have chemists in charge of laboratories, who determine the proportions of the materials that are being used from day to day, and thereby maintain a standard of cement as nearly as possible of the perfect mixture.

The following is given as being a typical analysis of a good commercial Portland cement:

Silican, 21 per cent. to 24 per cent.
 Alumina, 6 per cent. to 8 per cent.
 Oxide of iron, 2 per cent. to 4 per cent.
 Lime, 57 per cent. to 65 per cent.
 Magnesia, 1 per cent. to 4 per cent.
 Sulphuric acid, 5 per cent. to 2 per cent.
 Water and carboic acid, 1 per cent. to 3 per cent.

The second kind of cement mentioned above, namely, slag cement, is sometimes called puzzolan cement, and it has been defined as a product obtained by intimately and mechanically mixing without subsequent calcination powdered hydrates of lime with natural or artificial materials, which generally do not harden under water when alone, but do so when mixed with hydrates of lime. The materials mentioned which are mixed with the hydrates of lime being in the case we have under consideration furnace slag.

This cement resembles Portland in its properties, but it is more like natural cement. It is not as perfect or true a cement and is not suitable for use in air nor in sea water, nor in freezing weather, but when mixed properly works well in fresh water. It is not as reliable as true Portland cement and is not used to any great extent in building operations.

Natural cement, as its name implies, is made of the materials as they occur in nature without any daily laboratory ascertaining and fixing of proportion.

As may be expected, as the materials are taken directly from the ground, burned and ground into a

cement, the cement itself will vary as the rock varies in nature, so that the natural cement is not as reliable, although some very good results can be obtained with it.

PORTLAND CEMENT INTRODUCED.

In 1790 Joseph Parker introduced a cement as nearly like modern Portland cement as any used in those days, which he made by burning lumps of chalky clay stones, finely pulverizing the clinker, and called it "Roman Cement" because its color was very similar to that of the lavas in the vicinity of Rome. After a few years' investigation and repeated experiments under Parker's process, quantities of pulverized limestone were mixed with clay in certain combining proportions, calcined in kilns and ground very fine. This made a cement which was called "Portland" by Joseph Apsdin, a brick mason of Leeds, England, who manufactured and named it because of its close resemblance in color to the Portland sandstone, from quarries in the English Channel, out of which St. Paul's Cathedral, the Eddystone Lighthouse of Smeaton, and other prominent structures of England were built. In the fall of 1824 Apsdin, the inventor, obtained a patent royal for his hydraulic mixture. Many experiments were made about this time by English and French engineers in producing a cementing material that was expected to command the attention of builders; but no permanent results were obtained by them.

It was reserved for a German chemist, in 1828, to formulate the first theory of the action of ingredients and their proper combining properties to make a true Portland cement, since which time reliable material could be depended upon.

Other pioneer investigators entered the field for a quarter of a century afterward, and each trial resulted in an improvement on the previous production, till an excellent quality was established, and a commendable standard attained between 1855 and 1860. It was not until 1860 that any considerable quantity of Portland cement was made for the general market in England and on the continent, and but very little for exportation.

From this date up to 1875 increasing amounts of foreign "Portland" were brought to the United States and constituted the greater portions of such cement used in this country by the architects and engineers. About this decade, 1870 to 1880, a domestic product began to come into competition with the imported article, and has now almost displaced the foreign manufacture.

David O. Saylor was the first manufacturer of Portland cement in the United States, at Copley, Pa., about the year 1872.

TWO PROCESSES.

Two processes, known as the wet and dry, are used in mixing of the materials for Portland cement. The material first being crushed in either case and then thoroughly mixed, after which they are then ground to an extreme fineness, thereby becoming thoroughly mixed. It is then ready to pass through the kiln, which is nearly always at the present time of a rotary

nature and consists of a steel cylinder 5 feet to 6 feet in diameter and about 60 feet in length.

This cylinder is lined with firebricks and slightly inclined and revolves slowly. The raw material is fed in at one end, subjected to great heat, and is discharged from the lower end of the kiln, as a clinker, and is then ready to pass to the final grinding, which produces cement as used in a commercial way.

The manufacture of Portland cement, the proper manipulation and mixing of the materials, and the testing of the product, have now reached a very advanced stage, and has been reduced to as much of a science as any other building material we have. Cement should be ground very fine in order to secure the best results.

When cement is ready to be used and is mixed with a sufficient amount of water to bring it to a paste, it soon loses its plastic nature and finally reaches a point where it cannot any longer be handled without producing a rupture.

This change of condition is known as setting and may be considered as separate from hardening of the mixture. Setting usually takes place within a few hours, while hardening is continued for months and years. The time of setting is again divided into the time of initial setting and final setting. The time of setting of cement depends upon the time of year largely, setting more slowly in cold weather than in warm. The initial setting generally takes place in thirty minutes to an hour and final setting within four to five hours.

Developing test for tensile strength of neat cement

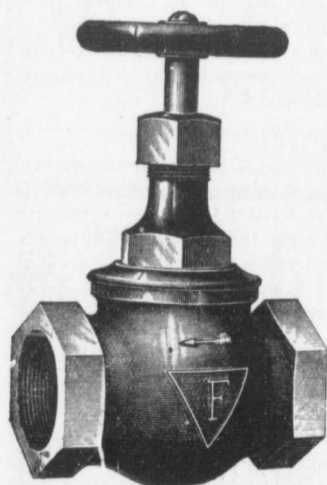
is for: 24 hours, 300; 7 days, 689; 28 days, 799; 3 months, 799; 6 months, 799; 1 year, 805.

The growth of the industry of cement manufacturing is simply marvelous—as statistics tell us that in 1882 the total output of Portland cement was 82,000 barrels. At this time reinforced concrete was unknown, and the value of Portland cement concrete as a structural material was not dreamed of. Natural cement had the field, and concrete, where it was used at all, was confined almost wholly to foundation and underground work. The output of Portland cement in periods of five years are as follows: 1885, 150,000 barrels; 1890, 335,000 barrels; 1895, 990,000 barrels; 1900, 8,450,000 barrels; 1905, 36,000,000 barrels.

In 1897 and 1898 there came a great shortage in structural steel. Deliveries were so uncertain and remote that engineers the country over were at their wits end to find ways and means for fulfilling their designs, and they turned at once to reinforced concrete to help them out of their dilemma. European systems of reinforced concrete were introduced and engineers generally began to study the subject from a scientific standpoint, with the result that by the year 1900 the steel concrete structure was recognized generally as a structural possibility, and its adoption was considered for every conceivable kind of problem.

At this period the production of Portland cement in this country had reached 8,450,000 barrels per annum. In the succeeding five years, however, the popularity of concrete and the confidence of the public in its properties were demonstrated in a most astonishing manner, for the production of Portland cement

It Pays to use the best Fairbanks Valves



**Guarantee
Satisfaction to Every User**

VALVES Any Size
Any Pressure
For All Purposes

**Are unexcelled for
workmanship, quality
and durability**

Asbestos Packed Cocks for Boiler Blow-off

The Canadian Fairbanks Co., Limited
MONTREAL TORONTO WINNIPEG VANCOUVER

sprang from 8,450,000 barrels in 1900 to 36,000,000 barrels in 1905.

The total production of all kinds of hydraulic cement in 1906, including Portland, natural rock and Puzzolan cement, was 50,027,321 barrels, valued at \$54,015,713.

Of this total 45,610,822 barrels were Portland, valued at \$51,240,652.

Three million nine hundred and thirty-five thousand two hundred and seventy-five barrels were natural rock, valued at \$2,362,140.

And 481,224 barrels were Puzzolan cement, valued at \$412,921.

IS NOT A FAD.

Anyone considering the progress of the industry as noted can hardly say that the reinforced structure is a fad, although it is to be admitted that concrete has been applied to many purposes for which it is not at all suitable. It is a fact, now beyond dispute, that the steel concrete structure has passed the experimental stage and has been adopted throughout the land as a building element of the greatest value.

It is true, however, that much has yet to be done in the education of the architect and the engineer and in the use of concrete in a logical manner and for its real value.

Owing to the comparative youth of this type of building, architects and engineers generally have not as yet given any great attention to the development of design essentially suitable to reinforced concrete. It is the general practice to design in brick, stone and steel and then to call upon a reinforced concrete engineer to reproduce a structure in reinforced concrete. This is an imperfect and unscientific method and unfair to the development of the true value of the concrete structure. The average architect and engineer is, as yet, too unfamiliar with the characteristics of concrete to design a structure solely from that point of view. He thinks in terms of brick and steel, designs in brick and steel, and then attempts to adapt concrete to his structure. The architect who would design intelligently for reinforced concrete must think in terms of reinforced concrete.

Reinforced concrete is a structural method possessing peculiar characteristics which are essentially its own, and any design which is to be carried out in this material should be adapted to its characteristics and qualifications.

Concrete building is not by any means new, because many of the monuments of Rome that have endured for more than 2,000 years, even the Pyramids of Egypt, were built of concrete far inferior to that which we use to-day. So inferior in fact, and so different in method and material, as to be hardly entitled to the name of concrete, as we know it at all. Still, these monuments, stripped of their facings of mosaics, tile and stone by the ravages of time and conquest, still endure. What then may we expect of the great structures which we are building under the eye of modern science? It is certain that the concrete of our day will endure far beyond the life of any natural stone, and it is not too much to hope and predict that when our architects have become acquainted with the true characteristics of this wonderful material, they will create a new architecture, more original and more

truly American than any we have attained thus far.

The future is replete with possibilities. We have learned thoroughly how to make concrete strong; let us learn now how to make concrete beautiful.

FOUNDATION WALLS OF CONCRETE.

In preparing to build a monolithic concrete wall as a foundation for a building, there are several points to be considered. Among them are the form and thickness of the wall, the material available, and the question of reinforcement.

Such a wall may be made solid or hollow; if hollow it may be tied together with piers, or by metal ties inserted as the wall is built. It may be of the same thickness all the way up or made narrower at the top, for economy.

The forms are an important factor in concrete work. For a wall they must be well braced or fastened together so there is no chance for them to be forced out of place by the mixture which must be well tamped, as it is placed in them. A good proportion for mixing the concrete would be 1; 3; 6, for general purposes on the farm.

The sand and gravel, or stone should be free from clay or dirt and should be carefully measured when used. The concrete should be mixed as near as possible to the place where used.

Spread the sand out in an even layer on a flat, tight, surface, spread the cement out on top of these and mix these thoroughly. Wet the stone before putting it with this and after mixing all together add water, a pail at a time, until the mixture is mushy. But before doing this, you want the forms in place. Boards may be set up on edge and held in place by stakes on the outside, for the footing course. It will be found that the stakes must be firmly fastened in place, either by bracing or tying wire across the wall. In clay soil where the excavation is made square and true forms may not be needed for the footing, and in some cases the forms for the outside of the wall may be dispensed with until the wall has reached at least a part of its height.

To build the forms, place 2 x 4's with the edge toward the wall 2 feet apart, unless the wall is heavy, then they need to be closer.

FOUNDATION WALLS OF CONCRETE.

Allow for the thickness of the boards used to hold the concrete and for the slant of the wall unless it is to be plumb. Fasten the 2 x 4's in place by bracing them, also by tying across the top with wire or boards. Wire may be placed across the wall at any point to tie the forms together and left in place as it can be clipped off even with the face after the forms are removed.

Before using the forms they should be given a coat of oil or soft soap to prevent the concrete sticking to them. They should be cleaned off each time they are moved. Have the boards fastened together in sections about one foot wide; put in a section in place and tack it to the studding with two or three nails driven only partly in so they may be removed.

The better forms you have, the better the wall will look when finished. Next you want the cores, to form an air space; these may be made in lengths of two feet, thus leaving a pier at this interval to tie the two

FOR SALE

44 Steel Flat Cars in perfect condition suitable for Lumber or Mining. Standard Gauge. Capacity 5 to 7 tons. Will sell cheap to a quick buyer. For further particulars apply to

SESSENWEIN BROS., MONTREAL

**43
MILLION
DOLLARS**

WAS SPENT
on new buildings in Winnipeg alone during the past 3 years. . . .

If you want Western Business you should cater for its trade by advertising in the

**WESTERN CANADA
CONTRACTOR & BUILDERS
GAZETTE**

Published, printed and edited solely for the West.

For Sample and Advt. Rates, address 720 Union Bank, WINNIPEG.

McGREGOR & McINTYRE, LIMITED

67 to 91 Pearl Street, Toronto, Ont.

STRUCTURAL IRON WORKS

*Beams, Channels, Tees, Angles, Chequered Plates, etc., in stock.
Fire Escapes, Sidewalk Doors, Iron Stairs, etc., etc.
Sole Agents for Duplex Hangers and Goetz Post Caps, Wall Boxes, etc.*

PHONES: 7248
7249

ESTIMATES FURNISHED

Steel and Wood Tanks

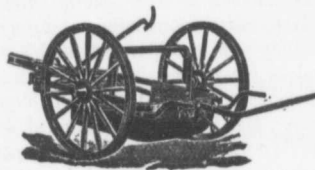
Steel Substructures

We are installing Tanks and Towers all over Canada for Sprinkler Systems, Municipal Water Supply Plants, Fire Pressure, &c.

**Steel Flagstuffs, Bell Towers,
Hose Towers, &c., &c.**

— POWER FURNISHED —
**WINDMILL, GASOLINE ENGINE or
HYDRAULIC RAM**

**ONTARIO WIND ENGINE & PUMP CO., LIMITED
TORONTO**

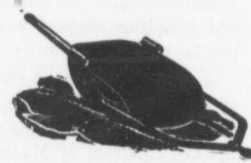


The Toronto Pressed Steel Co., Limited
Toronto and Winnipeg

Manufacturers . . .

**Drag Scrapers (Solid pressed bowl)
Wheel Scrapers (pressed or square bowls)
Dump Cars, from 1 to 3 yards
Wheelbarrows, Wood or Steel Trays
Waggons, Carts, Cement Mixers, Etc.**

Prompt delivery from stock at Toronto and Winnipeg
Send for complete catalogue. Write nearest office.



Wood Fibre ^{HARD} WALL ^{PLASTER}

White Rock (Hydrated) Lime

MANUFACTURED BY

THE IMPERIAL PLASTER CO., Limited

Dealers in Cement, Lime, Fire Brick, Fire Clay, Plaster Paris.

King St. (West of Subway) **TORONTO**

THE GALT FIRE HYDRANT



Endorsed as the best Hydrant on the market, easily operated and perfectly safe against damage above ground. Circulars give full information of this and other MUNICIPAL SUPPLIES, CATCH BASINS, MAN-HOLE COVERS and FRAMES, Etc.

The R. McDougall Co., Limited,
Galt, - Canada.

faces together. The cores must be wedge shaped, so that they may be raised as the work proceeds. When the cores are in place, the space may be filled with concrete up to the top of the form; this may be done the entire length of the wall and the first part allowed to harden, before another section of the form is placed on top of the first and the work carried up.

In this case the cores must be made two feet or more in height as they must be raised each time, and they may be suspended from a support arranged above them. The forms may be raised after the concrete has hardened. Twenty-four hours is generally long enough for this. It should be so hard as not to be dented with the thumb.

A different form of core should be used for the corners; so as to make a hollow corner, since it would not be well to bring two full size spaces together at this point.

In a long wall joints should be made every 12 feet, either by putting two layers of tarred paper in vertically across or by putting in a strip of galvanized iron, which may be removed when the concrete is partly set. The top of the wall to a depth of six inches should be made solid; this is easily done by putting some thin boards or iron over the holes to hold the cement till it is partly set.

The frames for doors and windows should be set when the wall is being built; should have a 2 x 4 spiked on the outside of them to hold them in place and to prevent the frost working in. Of course a good foundation may be made from concrete blocks, but the monolithic method is available where blocks cannot be readily obtained.

As to the actual and comparative cost of this kind of foundation, much depends on how cheaply stone or gravel may be secured, also on the cost of building stone.—"Journal of Modern Construction."

PRINCIPLES OF PROFESSIONAL CONDUCT FOR GUIDANCE OF ENGINEERS.

At a meeting of the Engineers' Club of Toronto on October 10th, Mr. A. B. Barrie, C.E., gave an interesting talk on the code of ethics as formulated by the Canadian Society of Engineers. "There is no code," declared Mr. Barrie, "which condones an engineer in doing anything unprofessional or against his own sense of honor." He thought the code was necessary for the guidance of those aspiring to enter the profession, in order that the principles of honor might become a second nature to them. The engineer should be strong-minded, one who sought primarily to control the forces of nature for the benefit of man. Perhaps the first lesson to learn was self-possession and the exercise of caution in the expression of opinion. Touching upon the virtue of incorruptibility, Mr. Barrie said that although, happily, a rare occurrence in this country, members of the profession had been known to pass defective work, and to have been persuaded to submit a greater amount than the work called for. To maintain the honor of the calling, all commercial interests must be subjugated and no undue pressure tolerated from external sources.

The address concluded with the reading of the code

and also of the proposed code of the Association of American Engineers.

Mr. R. F. Tate opened the discussion with a few pertinent remarks concerning the clause against the taking of notes. He thought it advisable and essential for an engineer to take copious notes and records, whether employed on salary or as consulting engineer, and declared that no restraint should be placed upon him in this respect.

Mr. R. G. Black, superintendent, Toronto Electric Light Company, thought that a code was advisable, so that all would be brought to act upon the same plane. With regard to the clause against notes, he thought that while the exact details were the property of the employer, the engineer should certainly benefit by the principles of his work.

After paying a tribute to the honorable nature of the profession, Mr. J. Stanley Richmond dealt forcibly with the indiscriminate passing of opinions on engineering matters by persons totally unqualified to give them, concluding with an exhortation to those present to stand "shoulder to shoulder" and to emulate the manufacturers in their methods of co-operation.

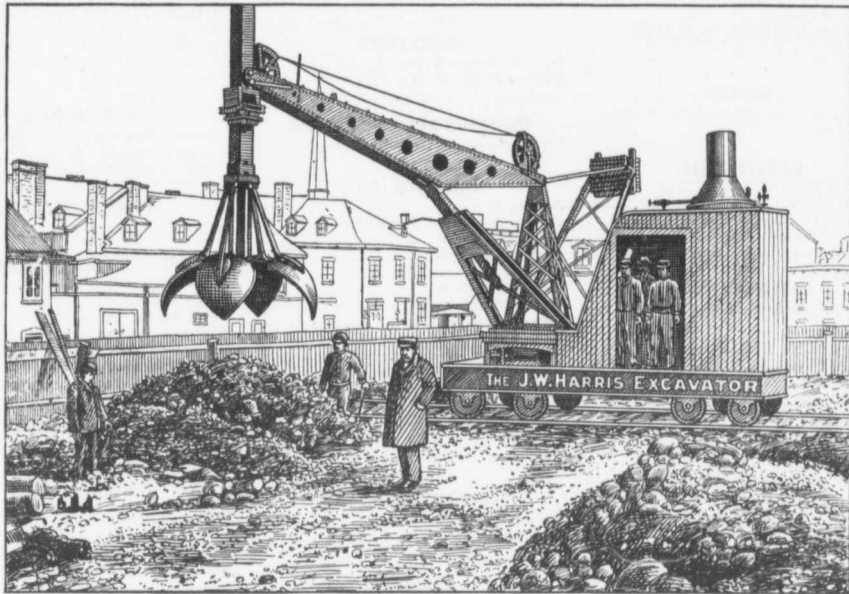
The chairman, Vice-President F. L. Somerville, made brief reference to the value of standardization, which, however, he considered should be used in a limited degree. With regard to the subject of taking notes he concurred with the previous speakers in that it behooved every engineer to make mental notes of all work—not for the dishonest trading of information from one employer to another, but for his own advancement and in the interests of the profession. After all, the whole matter resolved itself into a question of conscience. Mr. Somerville concluded with an allusion to the growing tendency amongst engineers to "cut each other out." Keener competition no doubt was accountable for this, but at the same time he would impress upon his hearers the great benefits to be derived from the principles of co-operation and unity.

COLORING BRICK WORK.

It is a common practice when brickwork gets dirty, after a few years' exposure to the sooty atmosphere of towns, to brighten it up by applying color washes and re-pointing. This is pernicious, for not only does it never produce the desired effect of new brickwork, but it looks what it is—"painty" and after a year or so its appearance is worse than ever. Sometimes yellow stocks, or white Suffolks and Burham bricks are actually transformed into red bricks. The painting, too, is ludicrous; the joints are filled up flush, the color wash applied over all, and the pointing lined in according to the fancy of the workman, often somewhat out of the horizontal and with imperfect perpend, and finally with the most weird conception of bonding. The suburban villa is bad enough without this sham brickwork. If it must be cleaned up, why not spend a little more time and trouble in rubbing down the surface and showing the honest substance of the real brick?—English Exchange.

CLASSIFIED INDEX OF ADVERTISERS

ACCIDENT INSURANCE Page	DRILLING CONTRACTORS Page	PIPE (CAST IRON) Page
Ontario Accident Insurance Co. 19	Harvey, J. 26	Canada Foundry Co. 27
ARCHITECTURAL SCULPTOR	DEBENTURES	Gartshore-Thomson Pipe and Foundry Co. 27
McCormack & Carroll. 6	Nay, Anderson & Co. 21	Gaudry & Co., L. H. 13
BOILERS	Stimson & Co., G. A. 19	Canadian Iron & Foundry Co. 23
McDougall Caledonian Iron Works Co., John 19	ENGINEERS AND CONTRACTORS	Stanton Iron Works Co. 9
BRIDGES (STEEL)	British Columbia General Contract Co. 17	PIPE (WOODEN)
Canadian Bridge Co. 19	ENGINEERS (CIVIL)	Canadian Pipe Co. 23
Canada Foundry Co. 27	Aitken, K. L. 25	Dominion Pipe Co. 23
Dominion Bridge Co. 17	Canadian Engineers, Limited. 24	Pacific Coast Pipe Co. 23
Jenks & Dresser. 22	Chipman, Willis 25	PLUMBERS' SUPPLIES
Phoenix Bridge and Iron Works. 24	Davis & Johnston. 24	Somerville Limited. 5
CASTINGS (IRON)	Fenson, C. J. 24	PUMPS AND PUMPING MACHINERY
Laurie Engine & Machine Co. 22	Fielding, John S. 6-9	Allis-Chalmers-Bullock. 7
CEMENT	Galt & Smith. 24	Beatty & Sons, M. 21
Alsen Portland Cement Co. 26	Jackson, John H. 25	Canadian Fairbanks Co. 11
Bremner, Alex. 17	Keating & Breithaupt. 24	Canada Foundry Co. 27
Canadian Portland Cement Co. 4	Lea & Coffin. 25	Drummond, McCall & Co. 17
DeSola, C. I. 9	Leofred, A. 6	Mussens Limited. 3
Edison Portland Cement Co. 26	Macallum, A. F. 24	McDougall Caledonian Iron Works Co., John 19
Gray & Bruce Portland Cement Co. 21	Pitt & Robinson. 25	ROAD MACHINERY
Hyde & Co., F. 6	Smith, Kerry & Chase. 25	Gameron & Co., Hugh. 17
Hanover Portland Cement Co. 20	Scott, Wm. Fry. 24	Climax Road Machine Co. 26
Hartraut, Wm. G. 20	Thomas, J. Lewis. 25	Heaman, George. 27
Lakefield Portland Cement Co. 22	ENGINEERS (MECHANICAL)	Morrison & Co., T. A. 17
McNally & Co., W. 17	Farmer, John T. 24	Mussens Limited. 3
Morrison & Co., T. A. 22	Galt & Smith. 24	ROCK DRILLS
Owen Sound Portland Cement Co. 21	ENGINES	Allis-Chalmers-Bullock. 7
Ontario Portland Cement Co. 20	Allis-Chalmers-Bullock. 7	ROPE
Stinson-Reeb Builders' Supply Co. 21	Cameron & Co., Hugh. 17	Dominion Wire Rope Co. 28
Thorn Cement Co. 20	Laurie Engine & Machine Co. 22	Greening Wire Co., B. 24
CEMENT BRICK MACHINES	Sawyer & Massey Co. 25	STEEL BARS (CORRUGATED)
Mussens Limited. 3	ELECTRICAL APPARATUS AND SUPPLIES	Corrugated Steel Bar Co. of Canada. . 9
CONTRACTORS' SURETY BONDS	Allis-Chalmers-Bullock. 7	STRUCTURAL IRON AND STEEL
United States Fidelity & Guaranty Co. 24	Canadian Gen. Elec. Co. 27	Canada Foundry Co. 27
CONCRETE BLOCK MACHINES	Drummond, McCall & Co. 17	Dominion Bridge Co. 17
Mussens Limited. 3	FIRE APPARATUS	Jenks & Dresser. 24
CONCRETE MIXERS AND MACHINERY	Cameron & Co., Hugh. 17	McGregor & McIntyre. 13
Canadian Fairbanks Co. 11	McGregor & McIntyre. 13	Phoenix Bridge & Iron Works. 24
Dartnell, E. F. 6	Morrison & Co., T. A. 17	Taunton, Richard A. 20
Hopkins & Co., F. H. 28	Seagrave, W. E. 22	STONE
Ideal Concrete Machinery Co. 11	HOISTING MACHINERY	Crushed Stone, Limited. 22
London Concrete Machinery Co. 20	Allis-Chalmers-Bullock. 7	Doolittle & Wilcox. 24
Mussens Limited. 3	Beatty & Sons, M. 21	Morrison & Co., T. A. 17
Morrison & Co., T. A. 17	Canada Foundry Co. 27	SHOVELS (STEAM)
Toronto Pressed Steel Co. 13	Georgian Bay Engineering Works. . 9	Allis-Chalmers-Bullock. 7
Vining Bros. Mfg. Co. 5	Hood & Sons, Wm. 10	Beatty & Sons, M. 21
CONTRACTORS' PLANT	Hopkins & Co., F. H. 28	Canada Foundry Co. 27
Allis-Chalmers-Bullock. 7	Mussens Limited. 3	Hopkins & Co., F. H. 28
Beatty & Sons, M. 21	HYDRANTS	Mussens Limited. 3
Canada Foundry Co. 27	Canada Foundry Co. 27	SEWER PIPE
Harris Mfg. Co., J. W. 16	Canadian Fairbanks Co. 11	Canadian Sewer Pipe Co. 4
Hopkins & Co., F. H. 28	Canadian Iron & Foundry Co. 23	Dominion Sewer Pipe Co. 17
Jencks Machine Co. 18	Gartshore-Thomson Pipe & Foundry Co. 27	SHOVELS
Mussens Limited. 3	Kerr Engine Co. 26	Hopkins & Co., F. H. 28
Toronto Pressed Steel Co. 13	McDougall Co., R. 13	Mussens Limited. 3
Wallington, G. F. 9	LOCOMOTIVES AND RAILS	TANKS AND STAND PIPES
CONCRETE CONSTRUCTION	Canada Foundry Co. 27	Canada Foundry Co. 27
Ambursen Hydraulic Construction Co. 24	Gartshore, John J. 19	Ontario Wind Engine & Pump Co. 13
CONTRACTORS' EMPLOYMENT BUREAUS	Hopkins & Co. 28	VALVES
North Western Employment Agency. . 22	Mussens Limited. 3	Canada Foundry Co. 27
Reliance Labor Exchange. 26	Sessenwein Bros. 13	Canadian Fairbanks Co. 11
Zarossi, Banco. 26	PLASTER BOARDS	Canadian Iron & Foundry Co. 23
CORRUGATED IRON	P. W. St. George. 26	Gartshore-Thomson Pipe & Foundry Co. 27
Metallic Roofing Co. 9	PILE DRIVING	Kerr Engine Co. 26
Metz Shingle and Siding Co. 22	Hood & Sons, Wm. 19	McDougall Co., R. 13
Ormsby, A. B., Limited. 20	Russell, John E. 19	WOOD FIBRE PLASTER
CRUSHERS (STONE AND ROCK)	PAVING AND PAVING MATERIALS	Imperial Plaster Co. 13
Allis-Chalmers-Bullock. 7	Ontario Asphalt Block Co. 25	WHEEL SCRAPERS
Canada Foundry Co. 27	Pettypiece Silix Stone Co. 25	Bechtels Limited. 21
Dartnell, E. F. 6	Silica Barytic Stone Co. of Ontario. . 17	
Hopkins & Co., F. H. 28		
Mussens Limited. 3		
Morrison & Co., T. A. 17		
Sawyer & Massey Co. 25		



FOR

excavation of any description, a Contractor couldn't save as much money with any class of machinery as he would with the

"J. W. HARRIS EXCAVATOR"

As the Machine does the work of a given number of men, a Contractor can always figure to a certainty on his working force, and that there will be no absentees, and therefore always ready at the tick of the clock when he says the word.

FOR FURTHER INFORMATION APPLY TO

J. W. HARRIS
MANUFACTURING COMPANY
MONTREAL

ARTIFICIAL STONE PAVEMENTS

SIDEWALKS A SPECIALTY
 CORPORATIONS Will do well to consider our work and prices before letting contract.
 The Silica Barytic Stone Company of Ontario, Limited.

WALTER MILLS General Manager. Head Office: INGERBOLL, ONT.

The British Columbia General Contract Co. Limited

Telegraphic Address: "Dredging"

Suite 5, Crowe & Wilson Block, 441 Seymour Street VANCOUVER, B. C.

ENGINEERS AND CONTRACTORS

MUNICIPAL WORKS AND BUILDINGS
 DREDGING AND RECLAMATION
 CONCRETE CONSTRUCTION
 RAILWAYS, BRIDGES
 HARBOR WORKS



FOR SALE
 "TAMCO" Crushed Stone in all sizes, for all purposes.
 "Roman" building stone.
 "Milton" pressed bricks.
 Sanitary flooring, stone crushers, fire engines, &c.
 T. A. MORRISON & CO.
 204 St. James Street,
 Tel. Main 4532. Montreal.

Please mention CONTRACT RECORD when corresponding with advertisers.

Dominion Bridge Co., Ltd.

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

STEEL BRIDGES

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

Toronto Agent: GBO. E. EVANS,
 38 Canada Life Bldg., TORONTO, ONT

PORTLAND CEMENT



SEWER PIPES
 FIRE BRICKS
 FIRE CLAY
 ALEX. BREMNER



50 Bleury Street, MONTREAL

SEWER PIPES

CHIMNEY TOPS
 FLUE LININGS
 WALL COPING



Salt Glazed and Vitrified.

TRUE TO SIZE
 IMPERVIOUS TO WATER
 WILL NEVER DISINTEGRATE

Sizes manufactured and always in stock:
 4-inch to 24-inch.
 SWANSEA.

Ask for Price List and Discount.

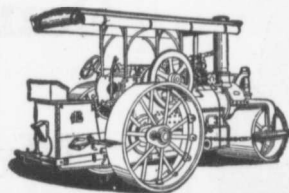
Telephone (Toronto Connection): Park 1809.

Post Office: SWANSEA.

THE DOMINION SEWER PIPE CO., LIMITED
 (THE INDEPENDENT COMPANY)

WORKS AND OFFICE
SWANSEA
 (NEAR TORONTO)

"WATEROUS" ROAD MACHINERY AND FIRE APPARATUS



FIRE ENGINES in five sizes, with a full line of fire-fighting goods.

We Rebuild other makes of Fire Engines with our patent Boiler.

BRANTFORD PITTS DOUBLE ENGINE STEAM ROAD ROLLER

IN THREE SIZES—10, 12 and 15 ton.

CORRESPONDENCE SOLICITED.

HUGH CAMERON & CO., Selling Agents 72 Queen St. West, TORONTO
 Manning Chambers.

KORTING GAS ENGINE

Action like a steam engine. Sizes 200 B. H. P. upwards to 4,000 B. H. P. Specially suitable for driving alternators in parallel. Over 150,000 B. H. P. running or in course of construction. Catalogue?

ZOELLY STEAM TURBINE

Safe Installation. Easy Examination. Continuous and Economical Operation. Send us your enquiries.

MANUFACTURED BY
Messrs. MATHER & PLATT, Limited
 MANCHESTER

CANADIAN AGENTS
DRUMMOND McCALL & CO.
 MONTREAL

TO PREVENT AND REMEDY DAMP WALLS.

The following simple process is said to effectually do away with all dampness of walls. Applications are made alternately of dissolved castile soap and dissolved alum. Three-fourths of a pound of soap is melted in one gallon of boiling water. The liquid thus obtained is thoroughly beaten to cause a stiff froth. This and the water are then completely incorporated by stirring and made boiling hot. The time for preparing the wall should be after a long dry spell, and as the wall must be as free from moisture as possible, this condition can be assisted by the judicious use of fires. Then brush the surface to be covered until as clean as possible. With a wide flat brush coat the surface with the boiling soap preparation, working it back and forth until the wall is covered with small bubbles. Let it remain twenty-four hours to dry out, then apply an alum solution made by dissolving half a pound of alum in four gallons of water. The alum coating may be nearly at blood heat. This should stand a day or two to dry and harden; then another application of soap, the same as the first, must be put on. How many coats are needed depends on the condition of the wall;

sometimes half a dozen would be necessary. The soap and alum form a coating insoluble in water, and this unites with the material in the wall, filling all of the crevices, and making a thoroughly waterproof surface. —“Architectural Art and Its Allies.”

DECOMPOSITION OF CEMENT BY SEA WATER.

According to M. Chatelier, all hydraulic binding agents, without exception, are capable of being decomposed by sea water, but the rate of this action varies within wide limits. It becomes relatively slow when alumina is present only in small proportions. The addition of puzzuolana, especially of calcined clay and of trass of good quality, endows all hydraulic cements with considerably increased powers of resistance to the action of sea water. The most essential condition to render cements immune from decomposition in the sea is to reduce to the utmost the volume of water employed in gaging the cement, and it is here that the effect of puzzuolana, quite independent of its chemical action, becomes of value.

Spigot and Faucet Pipe**Flanged Pipe****Turned and Bored Pipe**

MADE IN 12' 0" LENGTHS
3 TO 48 INCHES DIAM.



MADE IN SEVERAL WEIGHTS
PROVED FROM 100 TO 700 LBS.

AND SPECIAL CASTINGS

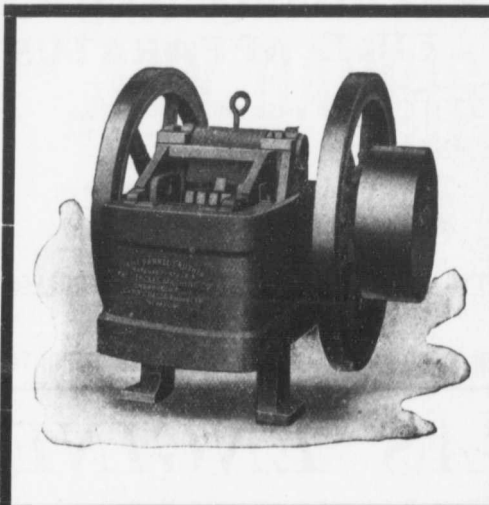
“THE WORLD'S STANDARD FOR ACCURACY, QUALITY AND FINISH.”

Write for Our Pocket Edition: The most complete catalog in this line published.

L. H. CAUDRY & CO.,

Canadian Agents for
Robt. Maclaren & Co., Glasgow

QUEBEC AND MONTREAL



Contractors'
AND
**Municipal
Stone
Crushing
Plants**

A Stone Crushing Plant consisting of our Farrel-Bacon Crusher, Bucket Elevator and Sizing Screen is perfectly adapted to Municipal Good Roads' and Contractors' Work.

WE INVITE CORRESPONDENCE

ASK FOR CATALOG NO. 603

THE JENCKES MACHINE COMPANY LIMITED

Sales Offices:
St. Catharines, Rosland,
Halifax, Cobalt.

Executive Office:
62 Lansdowne St.,
SHERBROOKE, QUE.

Plants:
Sherbrooke, Que.,
St. Catharines, Ont.

The Canadian Bridge Co., Limited

WALKERVILLE, ONT.

MANUFACTURERS OF RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables,
Rafts, Steel Buildings and
Structural Iron Work of all descriptions

Municipal and Other Bonds
and Debentures Bought
Highest Prices Paid.

G. A. STIMSON & CO.
16 King Street, West - TORONTO

PILE DRIVING

On land and water by steam.
Pile drivers or drop hammers.
Dams, wharves, bridge building
trestle work and general contract-
ing.
Submarine diving and all kinds
of submarine work.



We have always a stock in hand to
let of:
Diving Outfits, Portable Boil-
ers, Hoisting and Pumping
Machinery, Etc.
WM. HOOD & SON
10 Richmond Sq. - MONTREAL

The Ontario Accident Insurance Co.

ACCIDENT, EMPLOYERS, ELEVATOR
AND GENERAL LIABILITY

104 St. Francois Xavier St. Montreal

RAILS For Contractors, Switches, Gir-
ders, &c.
New and Second Hand.
LOCOMOTIVES AND CARS

John J. Gartshore
83 Front St. West,
(Opposite Queen's Hotel.) TORONTO

ELECTRICITY

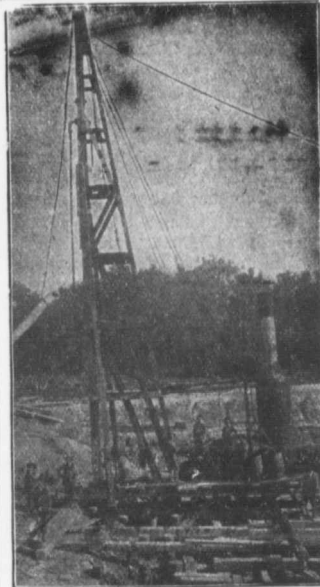
If you desire to keep posted on
the wonderful progress that is
taking place in the use of elec-
tricity for an almost endless var-
iety of purposes, you should sub-
scribe to the

Canadian Electrical News
and Engineering Journal

A 44 PAGE MONTHLY,
PRICE \$1 PER YEAR

Write for free sample copy to

The G. H. Mortimer Publishing Co.
LIMITED
Toronto Montreal Winnipeg Vancouver



PILE DRIVING

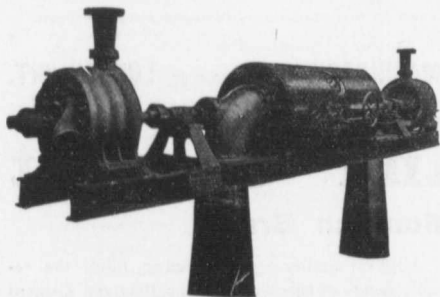
and Foundation Work.

By 5-ton Automatic Steam Pile Hammers
Water Jet or Drop Hammers, Dock Build-
ing, Submarine Work and Dredging.

BUILDING MOVER AND WRECKER
General Contracting.

JNO. E. RUSSELL, - Toronto
Residence, 1010 Queen St. E.—Phone M. 4636
Office and yard 307 Logan Ave.—Phone M. 2007

PUMPS FOR WATER WORKS



Two Worthington 3-Stage Turbine and McCormack
Water Wheels, built for Port Arthur, Ont., Water
Works, 1440 gal. per minute against 350 ft. head.

WATER WORKS SYSTEMS INSTALLED

Boilers, (Return Tube and Water
Tube,) Tanks, Penstocks,
Mill Machinery.

Builders in Canada of

“WORTHINGTON” TURBINE PUMPS

The John McDougall Caledonian Iron Works Co.,

Estimates Cheerfully Furnished HEAD OFFICE AND WORKS: Montreal. Limited.

DISTRICT OFFICES:

MONTREAL, 82 Sovereign Bank Building. TORONTO, 810 Traders Bank Building. WINNIPEG, 251 Notre Dame Avenue
VANCOUVER, 416 Seymour Street. NELSON, Josephine Street. NEW GLASGOW, N.S., Telephone Building.

NEW COMPANIES.

Dominion National Smoke Consumer Company, Limited, Hamilton, Ont., incorporated, capital \$50,000. Incorporators, Nelson Hand, of Medina, N.Y.; E.C. Tanner and H.R. McKinney, of Bradford, Penn., and F.H. White and A.R. White, of Hamilton.

Queen City Foundry Company, Limited, Toronto, Ont., incorporated, capital \$40,000. Incorporators, E. Gillespie, W. C. Burt, J. W. Clark, John Brooks, and R. G. Symthe, all of Toronto.

St. Thomas Packing Company, Limited, St. Thomas, Ont., incorporated, capital \$100,000. Incorporators, John Lyle, R.A. Penhale, Samuel Dubber and others.

Northern Islands Pulp Wood Company, Limited, Port Arthur, Ont., incorporated, capital \$100,000. Incorporators, A. J. Richardson, D. A. Nicholson, R. H. Jenny and others.

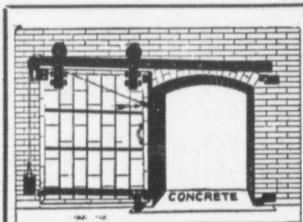
Regal Shirt Company, Limited, Hamilton, Ont., incorporated, capital \$200,000. Incorporators, R.B. McGregor, Edward Hender, W.J. Carroll and J.W. Lamoureux, all of Hamilton.

Sanitary Can Company, Limited, Niagara Falls, Ont., incorporated, capital \$100,000. Incorporators, F. W. Griffiths, W. H. McGuire, F. H. Boulter, Charles Peaslee and Roland Margetts, all of Niagara Falls.

American Silk Waist Mfg. Company, Limited, Montreal, Que., incorporated, capital \$49,900. Incorporators, Joshua Carr, L. Shlakman, M. Eliasoph, M. Golberg and Solomon Blaustein, all of Montreal.

Canadian Mexican Development Company, Limited, Victoria B.C.,

(Continued on page 22.)



OUR
Adjustable
Fire Door Hangers

will save you from one to five hours time in hanging a Door and when in position you simply turn a screw to adjust any way.

We also make, cover and supply the Doors at an interesting figure. Write for booklet.

A. B. Ormsby, Limited

FACTORIES:
Corner Queen & George Sts., TORONTO
677-8: Notre Dame Ave., W., WINNIPEG.

VULCAN PORTLAND CEMENT

DAILY CAPACITY 2500 BARRELS

Will be ready for shipment about January 1st. Our location, accessible to three railroads and the St. Lawrence River, gives excellent shipping facilities and ensures against car shortage in times of famines, embargoes, etc.

WILLIAM G. HARTRANFT GEMENT COMPANY, Sole Selling Agent
Room 55, Bank of Ottawa Building, Montreal Real Estate Trust Building, Philadelphia.



"Lehigh" Portland Cement

Capacity 20,000 Barrels Per Day.

The "Lehigh Portland Cement Company, Limited," are also now building a plant at Belleville, Ont., of 750,000 barrels annual capacity. Until this plant is completed all orders can be shipped from the United States. For prices, etc., address—

THORN CEMENT CO. - Buffalo, N. Y.
SALES AGENTS FOR CANADA

REFUSE DESTRUCTORS

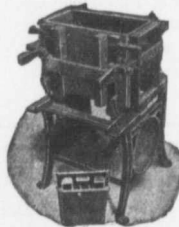
Complete Combustion — Perfect Sanitation
Latest Improvements.

STRUCTURAL STEEL AND BRIDGE WORK

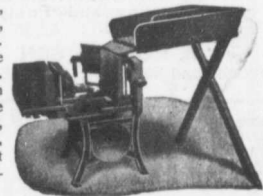
HEENAN & FROUDE, Limited
Manchester, England

RICHARD A. TAUNTON, - 622 MCINTYRE BLOCK WINNIPEG

LONDON CONCRETE BLOCK MACHINES



Beat Everything in Competition. Face-down, Adjustable, Combined, many machines in one. All sizes of blocks made on the one size of pallets. The core is withdrawn vertically, allowing the use of quite wet concrete, insuring a stronger block. Those new and important features are fully protected by patents.



LONDON MACHINES are known for their Superiority throughout the Continent.
Send for descriptive Catalogs of Face-down Block Machines, Brick Machine, Concrete Mixers, Sewer Tile Moulds, Drain Tile Machine, Sill and Lintel Moulds, Etc.

LONDON CONCRETE MACHINERY CO., 28 REDAN ST., LONDON, ONT.

Largest Exclusive Concrete Machinery Manufacturers in Canada.

Portland Cement Monarch Brand



Highest quality—guaranteed to fulfill the requirements of specifications for Portland Cement approved of by the Canadian and American Societies of Civil Engineers.

Prompt shipments from mill or stock at For William and Port Arthur.

THE LAKEFIELD PORTLAND CEMENT CO. LIMITED
LAKEFIELD ONT.

Prices of Building Material
PRESSED BRICK, Per M.

TORONTO PRESSED BRICK AND TERRA COTTA WORK
F.O.B. Milton, Ont.

Red No. 1.....	\$13 00
" " ".....	11 50
" " ".....	10 00
Buff No. 1.....	17 00
" " ".....	13 00
" " ".....	15 00
Brown.....	35 00
Roman Red.....	30 00
" Buff.....	35 00
" Brown.....	40 00
Hard Building.....	8 00
" Sewer.....	8 00
" Hacking.....	7 00
Moulded and Ornamental from \$2.00 to \$5.00 per 100.	
Costs string Courses and Frieze, from 50c. to \$2.00 per ft. run.	
Roofing Tiles, \$20.00 per 1,000.	

DON VALLEY BRICK WORKS.

Nos. 1, and 2, Red Pressed Bricks.....	Please write to head office, 34 Toronto St., Toronto, for catalogue and prices.
Nos. 1 and 2 Buff Pressed Brick.....	
No. 1 Brown Pressed Brick.....	
Pompeian Red, Buff and Brown Pressed Bricks.....	
Ornamental Bricks of all kinds for Mantel purposes.....	
Enameled Bricks of all Colors.....	
Porous Terra Cotta Fireproofing of all Descriptions.....	
Vitrified Street-Paving Bricks.....	
Semi-Vitrified Foundation Bricks.....	
Common Stock Red and Grey Bricks.....	
Sewer Bricks.....	
Stone or Macadamised Roadways.....	

BEAMSVILLE BRICK AND TERRA COTTA CO.

F.O.B. Beamsville.

Red Peerless Facing.....	\$16 00
" No. 1.....	14 00
" No. 2.....	13 00
" No. 3.....	10 00
Snowed Peerless Facing.....	20 00
" No. 1.....	18 00
Buff Peerless.....	20 00
" No. 1.....	18 00
" No. 2.....	15 00
Moulded and Ornamental Brk. from \$3 to \$10 per C	
Roman Red (Size 2 1/2 x 4 x 2 1/4 in.).....	30 00
" Buff " " ".....	30 00
" Brown " " ".....	35 00
Vitrified Paving Brick No. 1.....	18 00
" " No. 2.....	15 00
Sewer.....	8 00
Roofing Tile.....	22 00

Sackett Plaster Board, 36" x 36" in size, sold at about ac. per square foot

LUMBER

CAR OR CARGO LOTS, F.O.B. TORONTO.

1 inch No. 1 Pine cuts and better	\$49.00 to \$51.00
1 1/2 to 2 inch No. 1 cuts and better	54.00 58.00
2 inch No. 2, Pine cuts and better	48.00 50.00
1/2 to 1 inch No. 3 cuts and better	42.00 46.00
1 inch Pine Dressing and better shorts.....	28.00 30.00
1 x 4, 6 and 8 Common.....	27.00 28.00
1 x 10 and 12 Common.....	30.00 35.00
1 inch mill run sidings.....	28.00 29.00
1 x 10 and 12 mill culls.....	22.00 23.00
1 inch dead cull sidings.....	15.00 16.00
1/2 inch Flooring.....	32.00 34.00
Hemlock, 1 x 4 to 8 inch.....	19.00 20.00
2 x 4 to 8 inch, 12 to 16 feet.....	22.00 23.00
2 x 4 to 10 inch, 18 feet.....	23.00 25.00
1/2 inch No. 1 1/4 ft. Pine Lath.....	4.75 5.00
1/2 inch No. 2 1/4 ft. Lath.....	4.25 4.50
1/2 inch No. 1 1/4 ft. Hemlock Lath.....	4.00 4.00
XXXX Pine Shingles.....	3.50 3.75
XX Cedar Shingles.....	2.50 2.75
B.C. Shingles.....	
XXX 6 butts to 2 inch.....	3.75
XXXX 6 to 2 1/2 inch.....	4.07
XXXXX 5 to 2 inch.....	4.50

HARDWOODS—PER M. PENT CAR LOTS.

Ash, white, 1sts and 2nds, 1 to 2 inch.....	\$36.00 to \$38.00
Ash, black, 1sts and 2nds, 1 to 2 inch.....	33.00 35.00
Birch, M. R., 1 1/2 inch.....	21.00 22.00
" " 1 1/2 inch to 2.....	25.00 24.00
Basswood, Common and better, 1 to 1 1/2 inch.....	25.00 26.00
Basswood, 1 1/2 to 2 inch.....	26.00 28.00
Elm, soft, mill run, 1 to 1 1/2 in.....	23.00 24.00
Elm, rock, mill run, 1 to 1 1/2 in.....	26.00 28.00
Maple, common and better, 1 to 1 1/2 inch.....	22.00 23.00
Oak, red plain, 1sts and 2nds, 2 to 4 inch.....	46.00 50.00
Oak, white, 1sts and 2nds, 1 to 1 1/2 inch.....	44.00 46.00
Oak, quartered, 1sts and 2nds.....	70.00 80.00

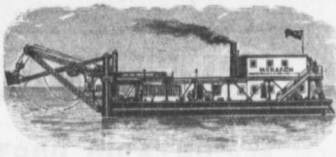
We are the largest buyers of Western School Debentures in the British Empire
School Trustees will do well to communicate with us when having debentures to offer for present or future delivery—
HIGHEST PRICES PAID, PROMPT SETTLEMENT
NAY & JAMES
SUCCESSORS TO
NAY, ANDERSON & CO.
Regina Sask.

Lafarge (NON-STAINING) Cement

PORTLAND CEMENT FIRE BRICKS
DRAIN PIPES FIRE CLAY
CULVERT PIPES SEWER BRICK
SEWER BOTTOMS

F. HYDE & CO.,
King, Queen and Wellington Sts. - MONTREAL

M. BEATTY & SONS, LIMITED

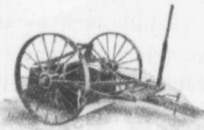


WELLAND, ONTARIO, CAN.

Dredges, Ditchers,
Derricks
Steam Shovels,

Submarine Rock Drilling Machinery, Mine Hoists, Hoisting Engines, Centrifugal Pumps for Water and Sand, Stone Derricks, Clam Shell Buckets, Steel Skips, Coal and Concrete Tubs, and other Contractors' Machinery.

You Want a



Wheel Scraper

That will load easier, dump easier and do a bigger day's work than any other.

Then let us send you one of our machines, it does it.

BECHTELS LIMITED

Waterloo, Ontario

Please mention THE CANADIAN CONTRACT RECORD when corresponding with advertisers.

WE SELL

PORTLAND CEMENT
WOOD FIBRE (HARDWALL) PLASTER
WHITE ROCK (FINISHING) LIME
COMMON LUMP LIME
SACKETT PLASTER BOARD

BRICKS

PRESSED COMMON FIRE

SALES AGENTS FOR

HUMPHRIES PATENT SCAFFOLDING BRACKET

CAR LOAD LOTS OR LESS

WRITE, TELEPHONE OR WIRE FOR PRICES

Stinson-Reeb Builders' Supply Company

188 William St., Montreal.

incorporated as lumbermen and miners, capital \$1,000,000. Incorporators, J. S. Lovell, William Bain, R. Gowans, E. W. McNeill, H. Chambers, J. Bisgrove, and Robert Coates, all of Toronto.

Ahern Safe Company, Limited, Montreal, Que., incorporated, capital \$75,000. Incorporators, R. M. Ahern, and others.

Waters Printing & Publishing Company, Limited, Montreal, Que., incorporated, capital \$49,000. Incorporators, J. Birchenough, of Youville, Que., R. E. J. Lane, Charles Westgate, P. G. Dancy, Louis Waters, A. F. Waters and W. H. Lumbley, all of Montreal.

PUBLICATIONS.

Messrs. F. H. Hopkins & Company, dealers in railway contractors' and mining supplies, Montreal, have just issued their latest illustrated catalogue, which, from cover to cover is up-to-date and interesting to all connected with the trade. The volume is well bound and consists of 261 pages, replete with particularly good cuts and information regarding them. We heartily recommend our readers to take advantage of Messrs. Hopkins' offer herewith to forward a copy on application.

In a report submitted to the Chicago board of local improvements by Andrew Rosewater, the expert engaged to look into the city paving, it was computed that the work yet required to be done would cost \$200,000,000, take twenty-seven years to accomplish and involve an annual expenditure of \$9,000,000, after completion.

The
Hanover Portland Cement Co. Limited
Manufacturers of
"SAUGEEN" BRAND
PROMPT SHIPMENT WRITE FOR PRICES
Office and Works: Hanover, Ontario

HERRINGBONE
LATH
MANUFACTURED BY
THE METAL
SHINGLE & SIDING CO., LIMITED
MAKERS OF FIREPROOF BUILDING GOODS
PRESTON & MONTREAL

JOHN S. FIELDING
C. E.

EARTH LOADED
STONE LOADED
WATER LOADED
REINFORCED CONCRETE

DAMS

ALSO
HYDRAULICS,
WATER POWER
DEVELOPMENT
REPORTS, ESTIMATES, ETC.

15
TORONTO STREET - TORONTO

Portland Cement...

HIGH GRADE GERMAN BRANDS FOR GRANOLITHIC
AND ARTIFICIAL STONE SIDEWALKS.

**Sewer Pipes, Best English Cements. Best Belgian Cements
Culvert Pipes, &c. W. McNALLY & CO., Montreal**

Crushed Stone, Limited
STONE of any Size and in any Quantity on hand for
Sidewalks, Roadwork or Concrete Work

Works:
KIRKFIELD, ONT.

Head Office: 47 Yonge St. Arcade, TORONTO
Phone Main 4516
G. W. Essery, Manager.

Blue Lake Cement

MADE BY

THE ONTARIO PORTLAND CEMENT CO. LIMITED
HEAD OFFICE: BRANTFORD, ONT. LONG DISTANCE 'PHONE 194

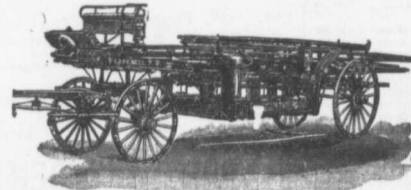
THE NORTH WESTERN EMPLOYMENT AGENCY

We supply men of all nationalities on short notice.
Laborers, Railway Men, Mechanics, Bushmen,
Teamsters, etc., furnished on demand.

378 Craig Street West, MONTREAL TEL. MAIN 468
We undertake all kinds of Contracts by letter or telegram

LIGHTNESS, STRENGTH AND ECONOMY

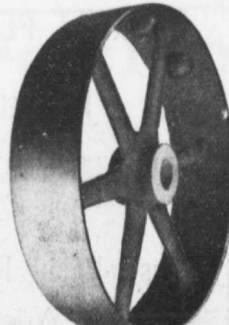
Seagrave Patent Trussed Ladders, Trussed Aerial, City Service and Village Hook and Ladder Trucks, Combination Hook and Ladder Trucks and Chemical Engines, Trussed Trucks and Hand Pumps, Combination Hose Wagons and Chemical Engines, Hose Wagons, Combination Hook and Ladder Trucks and Hose Wagons, Chemical Engines, Fire Extinguishers, Hose Reels, Patrol Wagons, Ambulances, Specialty Wagons, Patent Sleigh Runners, and other Modern Fire Fighting Tools.



Prompt attention given all inquiries. All goods built to order.

Long Distance
Phones 686 and 684

W. E. SEAGRAVE, WALKERVILLE ONT.



IRON CASTINGS

SEMI-STEEL CASTINGS		MACHINE MOULDED ESEARS
------------------------	--	------------------------------

Write for quotations

LAURIE ENGINE & MACHINE CO., LIMITED

PARMELEE & NICHOLSON Toronto Agents GUILDFORD & SON Halifax Agents

PACIFIC COAST PIPE CO., LIMITED, - P.O. BOX 563 VANCOUVER, B.C.

Machine Banded
Wood Stave
Water Pipe



Last year we made 75 miles of pipe of various sizes; one line alone being over 10 miles of high pressure 8-inch pipe for a pumping plant for the C.P. Ry. Co.

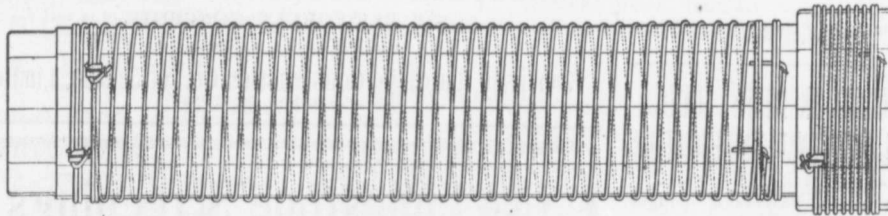
WRITE FOR CATALOGUE
FULL PARTICULARS AND ESTIMATES FURNISHED



CANADIAN PIPE COMPANY LTD.
HEAD OFFICE VANCOUVER B.C. P.O. BOX 915.

GALVANIZED WIRE WOUND WOODEN PIPE

No frost breaks, no corrosion. No electrolysis. It is easily and cheaply laid.
Its carrying capacity is never decreased by rust.



The Dominion Wire Wound Wood Water Pipe

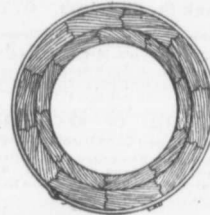
Showing special method of winding with two independent parallel wires.
The great advantage of this is, that in event of one wire becoming damaged, the pipe still retains a factor of safety of 2.5.

Made only by

THE **DOMINION WOOD PIPE CO.,**
NEW WESTMINSTER, B. C. LIMITED

Also Manufacturers of Continuous Stave Pipe for Irrigation and Power Purposes.

WRITE FOR CATALOGUE.



End view of Pipe and Coasting.

Please mention the CANADIAN CONTRACT RECORD
when corresponding with advertisers.

CANADIAN IRON AND FOUNDRY CO.

LIMITED

Special
Castings
Flange Pipe
Branches
Hydrants
Valves



CAST IRON PIPE

Valve Boxes
and
General
Water
Works
Supplies

SMALL DIAMETER WHEELS AND AXLES FOR CONTRACTORS.

CAR WHEELS. CASTINGS OF ALL KINDS.

Works at: { HAMILTON, ONT.
ST. THOMAS, ONT.
FORT WILLIAM, ONT.

{ MONTREAL, P. Q.
THREE RIVERS, P. Q.
LONDONDERRY, N. S.

HEAD OFFICE: IMPERIAL BANK CHAMBERS - MONTREAL

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

DAVIS & JOHNSTON
CIVIL ENGINEERS**WATER WORKS, SEWERAGE
AND SEWAGE DISPOSAL**Wm. Mahlon Davis, Herbert Johnston, C. E.
M. Can. Soc. C. E.
Offices: **BERLIN and GALT****JOHN T. FARMER****MECHANICAL and
HYDRAULIC ENGINEER**

418 Coristine Bldg. - MONTREAL

C. J. FENSOM, B. A. Sc.
CONSULTING ENGINEERAberdeen Chambers - Toronto
Machinery designed, supervised,
inspected and contracted for.TESTS - REPORTS
Electric Light Plants, Power Plants,
Pumping Plants.**CANADIAN ENGINEERS, LIMITED**
CIVIL AND CONSULTING ENGINEERSElectric, Hydraulic Plants,
Waterworks, Sewerage, Bridges.
33 Bank St. Chambers, OTTAWA.E. H. KEATING, M. Inst. C. E., M. Can. Soc. C. E.,
M. Am. Soc. C. E.
WM. H. BREITHAUPT, C. E., M. Can. Soc. C. E.,
M. Am. Soc. C. E.**Keating & Breithaupt**
Consulting and Constructing Engineers.Waterworks, Sewerage, Power Develop-
ments, Bridges, Railway Work;
Examinations, Estimates and Reports.Cable Address: Keating, Toronto.
Telephone: Main 6718.**Andrew F. Macallum**Consulting and Constructing Engineer
Steam and Electric Railways, Hy-
draulic, Industrial and Mining Plants.Rooms 612-14
Continental Life Building - TORONTO
Telephone Main 4652.**WILLIAM FRY SCOTT**
STRUCTURAL ENGINEERConsultation or Design: Buildings, Building
Construction, Foundations, Walls, Roofs,
Bridges, Masonry, Fireproof, Reinforced
Concrete, Reinforced Brick, Steel, Timber, Specifi-
cations, Examinations, Valuations, and Reports
for Investment.Aberdeen Chambers Cor. Adelaide
and Victoria Streets, TORONTO, ONT.
Main 4724 North 4260**GALT & SMITH**CONSULTING CIVIL AND
SANITARY ENGINEERSSPECIALTIES:
**WATERWORKS, SEWERAGE
AND ELECTRIC LIGHTING**JOHN GALT, C. E., OWEN W. SMITH,
Mem. Can. Soc. C. E. Assoc. Mem. Can. Soc. C. E.

25 Jordan Street TORONTO

Contractors to H. M. Governments

ALLAN, WHYTE & CO.

Clyde Patent Wire Rope Works, Rutherglen, Glasgow, Scotland

WIRE ROPES for Cableways, Aerial Ropeways, Elevators,
Cranes, Derricks, Pile Driving, Drilling, etc.Large stocks carried by **DRUMMOND, McCALL & CO.,**
MONTREAL AND TORONTO**THE PHOENIX BRIDGE & IRON WORKS, LIMITED**
MONTREAL
GENERAL STEEL CONTRACTORSLarge Stock I BEAMS, CHANNELS, ANGLES, TEES, ZEES and
PLATES always on hand.**AMBURSEN DAMS**

OF REINFORCED CONCRETE

Write us at once for information.

Ambursen Hydraulic Construction Co. of Canada, Limited
Coristine Building, MONTREAL**Use Limestone Screenings**for Concrete Blocks. Being free from loam, it makes a
stronger, cheaper, and better block than any other material.
Write to-day for sample and prices; it means money to you.**Doolittle & Wilcox, Limited, Dundas, Ont.**Advertise-
ments
in the
CONTRACT
RECORD
bring
results

THE UNITED STATES FIDELITY AND GUARANTY Co.

Acts as Sureties on
Contractors' Bids or Tenders
and on Final Bonds

Rates Reasonable. See our Agent
in your town or write direct to us
Head Office for Canada:
6 Colborne Street, Toronto
A. R. KIRKPATRICK, MANAGER

WE WILL BOND YOU

WIRE ROPE**WIRE ROPE**All Kinds and Sizes
and for All Purposes.

Standard and Lang's Patent Lay.

Rope Fittings - Rope Grease

THE B. GREENING WIRE CO., LIMITED

HAMILTON, ONT.

MONTREAL, QUE.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

WILLIS CHIPMAN

Hon. Grad. McGill University.
M. Can. Soc. C.E. M. Am. Soc. C.E.
Mem. Am. W.W. Ass'n.
WATERWORKS, SEWERAGE WORKS, GAS
WORKS, ELECTRIC LIGHT AND
POWER PLANTS
Reports, Surveys, Construction, Valuations
103 BAY STREET - TORONTO

LEA & COFFIN
and H. S. FERGUSON
ENGINEERS

Waterworks, Sewerage, Water Powers
Pulp and Paper Mills
Reinforced Concrete Structures of Every
Description.
Corinthian Building - MONTREAL

"THE NIAGARA BAR"

PITT & ROBINSON
ENGINEERS

411 MANNING CHAMBERS, TORONTO, CANADA
PHONE MAIN 6907
Offices also at Niagara Falls, Canada

A. LEOFRED
(Graduate of McGill)

Consulting Engineer
WATERWORKS A SPECIALTY.
39 St. John Street **QUEBEC**
Metropolitan Ins. Bldg.
Phone 545.

J. LEWIS THOMAS
CIVIL ENGINEER
LONDON - - ONTARIO

Consulting Engineer for Municipal and County
Work. Electric Railways, Bridges, Water-
works, Sewerage, Wharves, Docks, etc.
Special attention to Valuations and Arbit-
rations.

Smith, Kerry & Chace
CONSULTING AND CONSTRUCTING
ENGINEERS

Hydraulic, Electric, Railway, Municipal,
Industrial.
Rooms 124-127 Confederation Life
Building, TORONTO.
W.U. Code used. Cable Address "Smithco"
CECIL B. SMITH J. G. G. KERRY W. G. CHACE

Please mention CANADIAN CONTRACT
RECORD when corresponding
with Advertisers.

John H. Jackson

CIVIL ENGINEER
WATER POWER, ELECTRIC RAIL-
WAYS, STRUCTURAL STEEL.
Niagara Falls, Canada
Associated with Charles H. Mitchell,
C. E., Hydraulic Engineer.

K. L. AITKEN

CONSULTING ELECTRICAL ENGINEER
1003 Traders Bank Building
TORONTO, ONT.
Long Distance Phones { Office - Main 1482
Residence - North 311

More Men Employed in the Paving Business

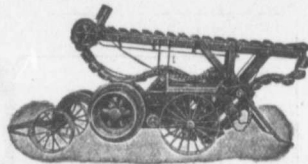
by the Pettypiece Silex Stone Co.
than by any other firm in Ontario.

There is a Reason.

Pettypiece Sidewalks are Good Sidewalks

We also manufacture Cement Building Blocks, Brick, Tile, etc.

THE PETTYPIECE SILEX STONE CO.
AMHERSTBURG, ONT.



Supplied in 4 sizes on
wheels or skids, with
or without elevators,
&c.

**NOTICE to CONTRACTORS
and QUARRYMEN**

Get prices on our

**NEW SOLID STEEL FRAME
CRUSHERS**

Especially adapted for road making, mining
and general contract work.

Sawyer & Massey Co., Limited
HAMILTON, CANADA

BRIMFUL OF EVERY-DAY

Address :

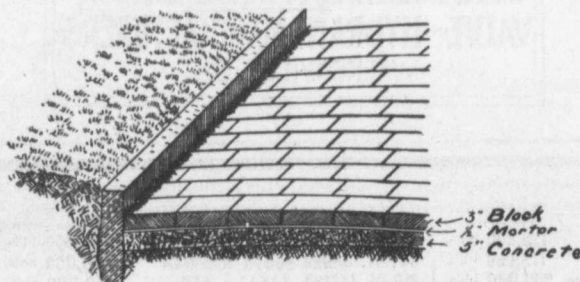
PRACTICAL INFORMATION

THE CANADA LUMBERMAN, Toronto

Scribner's Lumber and Log Book

Every lumberman wants it

.35 cents buys it



A Scientific Pavement

Must Be

Durable and Non-Abrasive.
Non-Absorbent and Nearly Noiseless.
Unaffected by Extremes of Tempera-
ture.
Sightly and Sanitary.
Easily Repaired and Easily Cleaned.

These Requirements are Met by

ASPHALT BLOCK PAVEMENTS

SEND FOR DESCRIPTIVE LITERATURE

THE ONTARIO ASPHALT BLOCK CO., LIMITED

WINDSOR, ONT.

SACKETT PLASTER BOARDS

Great time saver. Fire and sound proof. Cheaper than wooden and metal lath construction. In stock at Montreal and Toronto. Address

PERCIVAL W. ST. GEORGE,
80 St. Francois Xavier St. Montreal
R. B. H. BUCKNER, Ontario Lime Association,
Toronto.
JAS. J. MURPHY, 85 St. Peter Street, Quebec.

BANCO ZAROSSI

Italian Licensed Labor Contractor
460 St. James St., MONTREAL
All kinds of Italian Laborers furnished on short notice.

The Reliance Labor Exchange

426 St. James St., MONTREAL
Licensed to supply labor of all kinds. Careful and prompt attention given.
SAUNDERS & BLACK, - Proprietors

THE GREY AND BRUCE PORTLAND CEMENT COMPANY
of Shallow Lake, Limited.

Manufacturers of
"HERCULES" PORTLAND CEMENT
BRAND OF

Very finely ground. Unsurpassed for sidewalks, floors and all work requiring the highest grade of Portland Cement. For prices address,

A. D. CREASOR, Sec'y-Treas.
Head Office, Owen Sound, Ont.

J. HARVEY

CONTRACTOR
GREENSVILLE, ONT.

Driller of Oil, Gas, Salt or Artesian Wells. Deep Wells a Specialty.
20 YEARS' EXPERIENCE IN CANADIAN OIL FIELDS



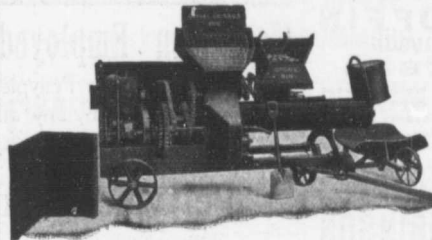
Contracts taken in any part of Canada. Several years experience in Artesian Wells for Municipal Water Works. Estimates or geological information cheerfully furnished.

REFERENCES GIVEN

SAMSON CEMENT

MANUFACTURED BY
THE OWEN SOUND PORTLAND CEMENT COMPANY, LIMITED
Owen Sound, Ont.
Works at SHALLOW LAKE, ONT. Write us for price.

THE EUREKA CONCRETE MIXER



Feeds automatic. Puts life and ginger into the crew. Nothing to go wrong. Built entirely of steel and iron. Mixing in plain sight. Looks right and goes right.

SUITABLE FOR
General Concrete Work,
Brick, Block and Tile
Pipe Makers.

FOR CATALOGUE AND PRICE WRITE

GLIMAX ROAD MACHINE CO., 37 James South
HAMILTON - CANADA



KERR'S GLOBE AND GATE VALVES
STRICTLY HIGH GRADE.
TESTED & PACKED

WE CATER TO THE wants of Steam Fitters who buy high class goods and to Water Works Contractors and Corporations installing Hydrants and Valves.



Get our "catalogue by writing us to-day.

THE KERR ENGINE CO. LIMITED
VALVE AND HYDRANT MANUFACTURERS
WALKERVILLE, ONT.

GERMAN ALSEN, at higher prices than competitors has again this year been awarded the most important contracts of the World because practical tests by leading Engineers proved its merit and relative economy. Note the following:

MEXICO CITY	(shipping instructions so far 60,000 bbls.) approximate amount	120,000 bbls.	U.S. PHILIPPINE GOVMT. ORDER	40,000 bbls.
MECAXA DAM		175,000 bbls.	GOVMT. ORDER SOUTH AMERICA	150,000 bbls.
XOCHIMILCO WATER WKS., MEX.	approximate	200,000 bbls.	RIO DE JAEIRO, S. A. J.; ETC.	40,000 bbls.

Also enormous quantities for the PACIFIC COAST, AUSTRALIA, ENGLAND, SOUTH AFRICA, ac.
There is always a certain trade who will pay for the best. We also make American Alsen, the highest grade of domestic Portland cement.

CEMENT

45 BROADWAY, NEW YORK CITY

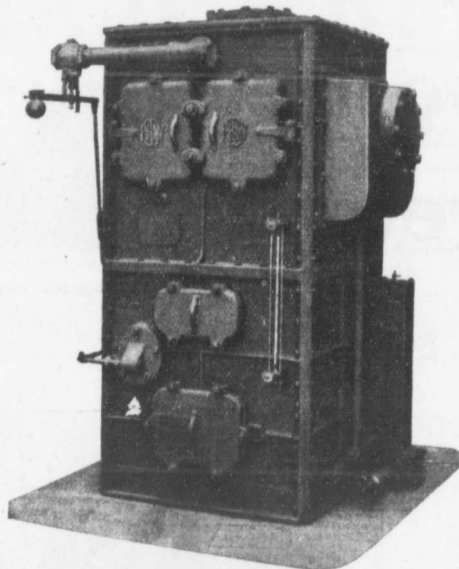
CEMENT

We protect our customers!

COCHRANE HEATERS

Utilize Waste Steam to Make Feed Water Hot

Save
Water
Coal
Repairs
Time



Are Cheap
To Operate
To Install
To Clean
To Repair

Canada Foundry Company, Limited

HEAD OFFICE AND WORKS: TORONTO, ONT.

District Offices: MONTREAL, HALIFAX, OTTAWA, WINNIPEG, VANGOUVER, ROSSLAND

RES THOMSON, President. J. G. ALLAN, Vice-President. JAMES. A. THOMSON, Secretary. ALEX. L. GARTSHORE, Treasurer.

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED.

Manufacturers of

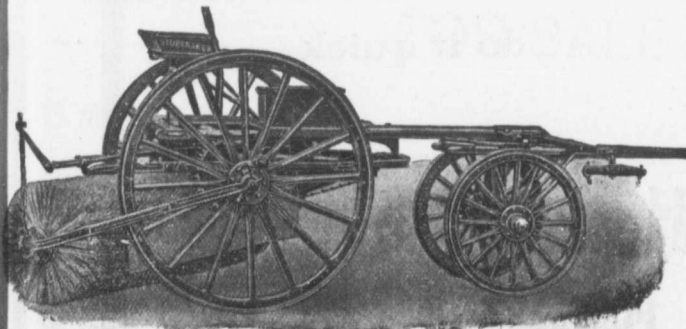
Flexible and Flange Pipe,
Special Castings and all kinds of
Waterworks Supplies.



3 inches to 60 inches diameter.

for Water, Gas, Culvert and Sewer

HAMILTON, ONT.



Stackpole
Patent Improved

Street Sweeping Machine

is the Standard
of Perfection

Because no sweeper so effectively does the work for which it is designed as "The Studebaker." It sweeps Clean. No sweeper is constructed with the same degree of care and mechanical precision. It wears Well. "The Studebaker" has the smallest number of working parts, and has less gearing than any other sweeper made. It is free from all unnecessary complications. With reasonable care it does not get out of order. Send for complete descriptive catalogue.



Studebaker Sprinkler

(PATENT IMPROVED.)

Does not clog or get out of order. Greatest width of spray
Can be guided from driver's seat to any volume.

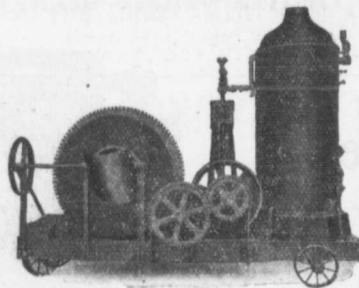
We also make an . . .

IMPROVED VERTICAL SPRAY

for Pavements

Geo. Heaman, Mnfr., London, Ont.

Ransome Concrete



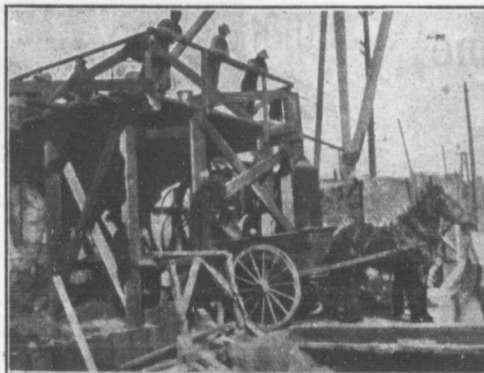
Mixers

have made good
wherever they
have been
installed

Ransome Mixers are
extremely simple ma-
chines—very easy to
operate—efficient and
durable.

CONCRETE MIXERS
Supplied with or
without power
All Capacities

Can we send you our
Concrete Handbook?



CONCRETE MIXERS

that do good work

and

do it quick



F. H. Hopkins & Co
Montreal

