### 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 - AUGUST 14, 1907 - WINNIPEG, VANCOUVER

No. 24

### THE CANADIAN CONTRACT RECORD

PUBLISHED EVERY WEDNESDAY As an intermediate Edition of the Canadias Architect and Builder.

#### THE C. H. MORTIMER PUBLISHING COMPANY of Toronto, Limited,

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Davis Chambers, 615 Hastings St., Vancouver, B.C. Telephone 2248

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

> Classified Index of Advertisers. Page 15.



Temiskaming and Northern Ontario Railway Commission

### TENDERS FOR OFFICE. MINING ENGINEER

Sealed tenders, addressed to the undersigned and endorsed "Tender for Office, Mining Engineer," will be received up to 5 p. m. on the s8rm DAY OF AUGUST, 1995, for the erection of an office for Mining Engineer a confications may be seen at the office of the Commission, as J Toronto Street, Toronto, and at the office of the Commission, as J Toronto Street, Toronto, and at the office of the Chief Engineer, North Bay, A certified cheque for \$400.00 must accompany each tender.

The successful tenderer must enter promptly into a contract and furnish security for the amount of \$1,000.00 for the due completion of same. Cheques of unsuccessful tenderers will be returned to them.

The lowest or any tender not necessarily accepted.

A. J. McGEE,

A. J. McGEE, Secretary-Treasurer.

Toronto, July 22nd, 1907.

Papers inserting this advertisement without athority will not be paid for same.

### FOR SALE

A. J. H. ECKARDT.

National Casket Co.,

107 Niagara St., Toronto.

#### The Royal Institute of British Architects, London.

#### Examination for Admission as Associate.

An examination for admission as Associate of the Royal Institute of British Architects, Lon-don, will be held in Toronto, from the 147H to 21ST of NOVEMBER, 1907. Full particulars and all information regarding this examination can be had by applying to F. S. BAKER, Honorary Secretary for Canada, Traders Bank Building, Toronto.

### **Notice to Contractors**

Sealed tenders, addressed to Charles Pepper, Chairman of the Water Works Committee, Ottawa, Canada, will be received by registered post only at the office of the City Bagineer, up to 5 NM. TUES, DAY, AUGUST 3771, 1907, endorsed 'Tender for Water Works Pumps, for the supply and installation of two Duplex Water Fower Pumps, having a capacity of 3,000,000 Imperial gallons each per day. Specifications, forms of tenders and full particulars may be supply the committee of the City Engineer's office, City The Corporation does not bind itself to accept the lowest or any tender.

NEWTON J. KER, City Engineer.

Ottawa, August 3, 1907.

### EXTENSION OF TIME

Town of Campbellford

#### POWER DEVELOPMENT

At Middle Falls ON THE TRENT RIVER

Sealed tenders are required for Rock Cutting, Concrete Work. Turbine Wheels, Generators and about 24 miles of Transmission Line. Plans and specifications may be seen after August 18th, at the office of the Engineer, JOHN S. FIELOING, C.E., CONSULTING ENGINEER, 18 Toronto Street, Room 18 Toronto. Tenders to be in by 12 o'clock noon, SEPTEMBER 271s, addressed to W. J. Doxsee, Esq., Mayor of Campbellford.

The Juwest or any tenders of

The lowest or any tender not necessarily accepted.

E. C. WEST,
Clerk of the Corporation of the
Town of Campbellford.

#### WANTED

Re-engagement as Clerk of Works or Quantity Surveyor. W. FRASER, 142 Grace Street, Toronto.

### SCHOOL DEBENTURES FOR SALE

TOWN OF NORTH BATTLEFORD

Seven Debentures of \$5,000 each, repayable in 30 years, in 30 equal aggregate amounts of principal and interest at 3% per annum. Payable at the Canadian Bank of Commerce, North Battleford.

14For further particulars apply

E. W. DREW,

Secretary-Treasurer North Battleford.

### Tender for Pipe Drain

To be received by the undersigned up to SATUR-DAY, 24TH AUGUST, 1907, to 6 P.M., for laying about 1.674 feet of 12-inch pipe drain in Davisville Avenue, Town North Toronto, County York, Specifications, plan, etc., can be examined at office of the undersigned and at office of Petes S. Gibson, C.E. and O.L.S., Town Engineer, at Willowdale. Any tender not necessarily accepted.

M. J. DOUGLAS, Town Clerk.

Eglinton P.O.

Eglinton P.O.

### Plans for New Calgary General Hospital

### Notice to Architects

The time for receipt of plans has been ex-tended to 12 o'clock noon on MONDAY and SEPTEMBER, 1907.

(Signed) H. R. DUDLEY SMITH,

### CITY OF FREDERIGTON DEBENTURES

Scaled tenders, marked "Tender for Fredericton Debentures," will be received by the undersigned until AUGUST 25TH, 1907, for City of Fredericton Water Debentures, running for forty years from August 1st, 1907, issued in sums of \$500.00 each, bearing interest at 4 per cent payable half yearly. Tenders to state the price and amount each applicant will take.

The City reserves the right to reject any or all bids or to accept any bid.

For further particulars apply to

1. R. GOLDING, City Treasurer,
Fredericton, N. B.

Nearly every building in the town of Essex, Ont., 35 miles from Detroit, is reported to have been recently destroyed by the explosion of a car of dynamite.

Montreal maintains a steady building record. July building permits totalled \$843,503, which is only a few thousands below the June mark. The total for new buildings under construction in the current year is \$5,351,646.

Augu

#### CONTRACTS OPEN.

MERRICKVILLE, ON I. - A \$3,000 drill hall will shortly be built here.

VERMILLION, ALTA. — A new \$25,000 school building is being erected here.

WINDSOR, ONT.—The new Episcopal church of the Ascension is in course of construction.

HIGH RIVER, ALTA.—The City Council are taking tenders this week for the erection of a Town Hall.

WELLAND, ONT.—The Methodist church on Muir street, recently destroyed by fire, will be rebuilt at once.

NIVERVILLE, MAN.—Tenders are being taken this week by A. Whittick for the erection of a church.

AMHERSTBERG, ONT.—A by-law has been carried for raising \$2,500 by debentures for waterworks improvement.

BERLIN, ONT.—The corner stone has just been laid of an addition to St. Jerome's College, which will cost \$40,-000.

ST. FELICIEN, QUE.—On August 26th the ratepayers will vote on a by-law for the installation of a waterworks system.

INGERSOLL, ONT.—Mayor Coleridge has been authorized to apply to Andrew Carnegie for \$10,000 towards a library.

ISLINGTON, ONT.—The Etobicoke Council have passed a by-law to raise \$18,000 for the erection of a school at new Toronto.

MONCTON, N. B. — Tenders are being taken this week for the construction of premises for the Bank of Montreal in this city.

CARLYLE, SASK.—Thomas Jarrott, Secretary, will take tenders up to August 25th for \$3,500 6 per cent 20 year school district debentures.

HUNTSVILLE, ONT.—Efforts are being made to have a new steel bridge erected in place of the wooden bridge which recently collapsed.

AYLMER, ONT.—A by-law in connection with the local sewerage scheme has had two readings and indications point to a speedy realization.

LONDON, ONT.—The Provincial Board of Health have approved of plans for the Isolation Hospital and their adoption is now almost certain.

FORT WILLIAM, ONT.—The first building permit to be issued this month was in favor of James Murphy for a \$15,000 block on Simpson street.

WAYBURN, SASK.—Votes of the ratepayers will be taken on August 15th on a by-law for providing \$50,000 for construction of waterworks system.

SUDBURY, ONT.—Application has been made to the Municipal Board for the approval of a by-law to raise \$10,000 for a waterworks system and sewage.

BRANTFORD, ONT.—The Canada Machine Telephone Co. will shortly have an automatic system in operation here. They have purchased a site for an \$8,000 office.

SIMCOE, ONT.—August 16th is the last day for sending in tenders to the Department of Public Works, Ottawa, for the construction of a public building here.

MASSEY, ONT.—A by-law to provide \$10,000 for the extension of the waterworks system has been approved of by the Ontario Railway and Municipal Board.

GALETTA, ONT.—As soon as the development of the Madawaska water power is sufficiently advanced, electric machinery and a water wheel will be installed.

FREDERICTON, N. B. -A union depot will likely be erected here before very long, provided the railway authorities can come to the necessary understanding.

MEDICINE HAT, ALTA.—A bylaw providing \$10,000 for building an Isolation hospital and granting \$5,000 to the new wing of the General hospital has been passed.

PRINCE ALBERT, SASK. — The Victoria Hospital authorities have decided to build an addition to their premises, which will be larger than the present building.

YORKTON, SASK.—Tenders will be received by F. J. Robiason, Deputy Commissioner of Public Works, Regina, up to August 17th for the work of reheating the Court House.

HAILEYBURY, ONT.—Five acres of land have been purchased here upon which will be built a large foundry and machine shop, A \$10,000 structure will shortly be commenced.

QUEBEC, QUE.—W. B. Baillairge, City Fngineer, is this week taking tenders for the erection of a new fire station. Plans with the architect, G. E. Tanguay, and with Mr. Baillairge.

STRATHCONA, ALTA. — Recent building permits include: Trustees Holy Trinity church, \$21,513; H. Crawford. dwelling, corner Duggan street and Macdonald avenue, \$5,000.

DE BERT, N. S.—It is reported that several capitalists from abroad have secured the option on some thousands of acres of timber lands with a view to establishing a pulp mill here.

BROCKVILLE, ONT.—Votes of the ratepayers will be taken on August 26th on a by-law for the issue of \$9,000 of debentures to provide for the renewal and repair of certain bridges in the town.

CALCARY, ALTA.—The time for receiving plans for the new General hospital has been extended to the 2nd of September.—Plans for an up-to-date street railway service have been completed.

WOLSELEY, SASK.—F. J. Robinson, Deputy Commissioner of Public Works, Regina, invites tenders until August 17th for reheating Court House. Specifications on application to Mr. Robinson.

ST. CATHARINES, ONT. — The Whitman & Barnes Manufacturing Company have agreed to spend \$40,000 in machinery and factory improvements in return for reduced assessment granted by Council.

NEEPAWA, MAN.—Fred Gelinas, Department of Public Works, Ottawa, wants tenders up to August 27th for the construction of a public building. Plans on application to the Postmaster or at the Department.

LETHBRIDGE, ALTA. — George Whalen, Secretary-Treasurer, Lethbridge Woollen Co. Ltd., is taking tenders this week for the purchase of \$40,000 5 per cent 20 year debentures in the above company.

SARNIA, ONT.—It is now certain that the C. P. R. is coming to Sarnia. The line will be first extended from London and eventually to Stratford, thus providing a fast line from central and eastern Ontario to the west.

NEWMARKET, ONT. — A by-law for raising, \$2,500 by debentures for the purchase of meters, and for the extension and improvement of the electric lighting system, has met with the approval of the Ontario Railway and Municipal Board.

OWEN SCUND, ONT.—It is reported that the Ben Allen Portland Cement Company will erect, either here or at Ben Allen, 4% miles distant, a

large plant, which will include mils having a minimum capacity of 600 barrels daily.

PORT ARTHUR, ONT. — Neil McDougall, Indian Agent, wants tenders up to August 15th for the erection of a school house and residence at Squaw Bay and the Mountain schools, Fort William Indian Reserve. Plans at Agent's office.

STRATFORD, ONT.—Recent building permits include Blayer & EllIson, brick veneer residence, Water street, \$2,700; Pounder Bros., two frame residence, Nile street, \$2,500; Stratford Construction Co., brick veneer residence, Norman street, \$2,200.

DALHOUSIE, N. B.—By a large majority the ratepayers have decided to accept the proposals of the Cascapedia Trading Co. who intend to establish lumber mills and dry kilns here. The proposed plant will cost \$1,000,000 and the structure will be entirely of concrete.

REGINA, SASK. — This city has been selected by a large American concern engaged in the manufacture of agricultural implements and machinery as their western headquarters. Captain Blenkorn, the company's representative, is at present aegotiating for a building.

SHERBROOKE, QUE. — Tenders are invited up to August 29th by Fred Gelinas, of the Department of Public Works, Ottawa, for the construction of a drill hall in this city. Specifications at Sherbrooke Post Office, from the caretaker, and at offices of the Department.

BARRIE, ONT.—Local churches are undergoing extensive improvements. A new building is being erected by the El zabeth street Methodists at a cost of \$18,000. An extension is being added by the Collier street Methodists, costing \$12,000, and Trinity church is being renovated.

MOOSE JAW, SASK.—A second reading has been given a by-law to borrow \$125,000 for waterworks and sewer extensions.—John D. Simpson wants tenders up to August 19th for construction of some 10,000 feet of sewers and water mains. Plans at City Engineer's office.

CUMBERLAND, B. C. — Fred. Gelinas, Department of Public Works, Ottawa, invites tenders up to August 19th for the construction of a public bui ding here. Plans and specifications on application to the Postmaster at Cumberland or at the offices of the

VICTORIA, B.C.—The School Board have instructed Ridgeway Wilson, architect, to prepare plans for the erection of a six-roomed school building at Victoria West.—A recently adopted report of the Streets & Sewers Committee provides among other things for the laying of over \$27,000 of new sewers.

PENETANGUISHENE, ONT.—W. H. Hewson, Town Clerk, will receive tenders until August 20th for the following debentures: \$23,000 High school debentures, 4½ per cent., 30 years; \$15,000 Public school debentures, 4½ per cent., 30 years; \$2,150 Permanent Improvement debentures, 4 per cent., 20 years.

ST. JOHN, N.B.—A new \$60,000 building for the Y.M.C.A. is in course of construction.—The C.P.R. have notified the Board of Works that they expect the city to build the grain conveyor at the new wharf.—Francis Kerr has applied to the Board for the widening of the wharf at Sydney slip. Estimated cost \$2,200 to \$2,500.

ST. PETER'S BAY, KINGS COUNTY, P.E.I.—Fred Gelinas, Secretary Department of Public Works, Ottawa, wants tenders up to August 27th

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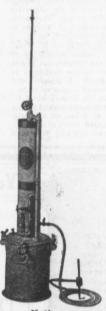
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\$60,000 course of notified kpect the or at the applied to he wharf st \$2,200

CINGS nas, Sec-Works, gust 27th BRANDON, MAN.—J. H. Howden, Minister of Railways, Telephones and Telegraphs, is taking tenders this week for the building of a subway in connection with the Manitoba Government Telephone Systems in this city.—The following building permits have been issued: Hanbury Manufacturing Co., 15th street, \$4,500; Brandon Manufacturing Co., Dennis street, \$2,000.

HAMILTON, ONT. — Henry New, formerly of the Hamilton and Toronto Sewer Pipe Company, has purchased a large tract of land east of the city limits upon which he purposes to establish a brick works and pottery.— The Parks Brard and Finance Committee have endorsed the Macullum route through the parks for the Hamilton, Waterloo and Guelph Railway.—The paving of East King street and Main street has been authorised.

CHATHAM, ONT.—The Traders Bank have purchased a site here upon which they intend to erect a fine building next season.—Negotiations are on hand for the construction of a building for James Palmer's steam bakery.—There is also some talk of a gasol ne engine and cream separator manufacturing concern locating here.—Votes of the ratepayers will shortly be taken on a by-law providing for the construction of subways at First avenue and Ross street.

WOODSTOCK, ONT.—J. T. Bean, Maplewood, will receive tenders up to August 14th, for the construction of the Kerr-Luoton drain in the townships of West Zorra, South Easthope and Diwnie. Estimated cost \$4,407. Specifications with Mr. Bean.—Rev. J. G. Taylor is endeavouring to interest capital for the erection of a \$10,000 industrial school for the colored youth of Ontario.—Plans for the new city hall have been

favorably received and a by-law providing for the erection thereof will probably be submitted in January.

EDMONTON, ALTA.—J. S. Ward, President of the Alberta Biscuit Co., was recently in the city arranging preliminaries for the establishment of a factory in Edmonton.—The following building permits have been issued: W. J. Webster, First street, offices and stores, \$24,000, Johnston & Lines, architects; A. J. McKay, Cameron street, dwelling, \$4,000; John McCorkindale, Morris street, dwelling, \$2,500; and W. B. Fullerton, two dwellings on Heiminck street, \$1,800 each.—The plans of the new Parliament buildings have been practically completed and are only awaiting the Premier's sanction.—A prominent manufacturer of Illinois has purchased property in the east end of the city with a view to establishing a large furniture manufacturing plant.

OTTAWA, ONT.—Amongst by-laws recently passed was one for the issue of debentures to the amount of \$50.000 for extensions and improvements to waterworks system.—The City Council have granted the Board of the Collegiate Institute \$270,000 in debentures for the enlargement of their buildings.—A permit has been taken out by the Bunk of Ottawa for the erection of a new \$20,000 building on Bank street, \$50,000; W. W. Core, alteration to dwelling, O'Connor street, \$5,000; T. Lawson, blacksmith shop, Wellington street, \$2,000. — Fred. Gel'nas, Secretary Department of Public Works, invites tenders up to August 21st for alterations and additions to the Royal Observatory. Plans and specifications at offices of Department.

WINNIPEG, MAN.—Fred Gelinas, Department of Public Works, Ottawa, invites tenders up to August 21st for the erection of a guard room building at Fort Osborne. Plans and specifications may be obtained of Joseph Greenfield,

Superintendent of Public Buildings, Winnipeg, and at the offices of the Department, Ottawa.—The Provincial Legislature will likely erect a bu lding suitable for teaching all branches of household science.—A new residence for the accommodation of 200 students, together with a greenhouse, poultry plant and sheep barn, will be erected for the Agricultural College this fall.—M. Peterson, Secretary Board of Control office, wants tenders up to August 16th for the construction of a sewer connection and installation of plumbing to certain properties in the city. Specifications at office of City Engineer.—The projected power plant at Pointe du Bois has produced keen competition, tenders having been received from several European firms.—The Committee have passed plans for new bridge at Lac du Bonnet, estimated cost \$40,000.

MONTREAL, QUE. — Tenders will be taken up to September 6th by George Janin, Superintendent and Chief Engineer of Montreal Waterworks, for the construction of a reinforced concrete conduit about 9 feet in diameter and 29,300 feet long. The work comprises about 250,000 cubic yards of earth excavation, and 44,000 cubic yards of rock excavation, also the supply and construction of the reinforced concrete with moulds and metal for reinforcing. Specifications and further details can be had at the Superintendent's office. — The Water Committee wil ask Council for \$28,000 in order to purchase a new set of 450 horse-power boilers and construct installation building at the low level pumping station.—Hon. W. A. Weir, Minister of Public Works, P.Q, invites tenders up to August 22nd for construction of the new jail. Plans at Government offices, 9 St. James street, or at architect's office, 164 St. James street.

VANCOUVER, B. C.—The South Vancouver Council will procure pipes and all necessary material for the installation of a waterworks system throughout their municipality.—Recent building per-

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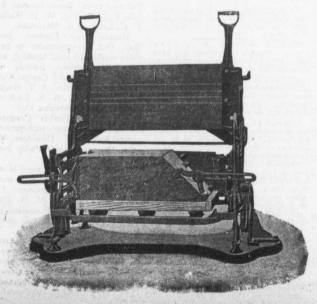
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mits include :- W. G. Bower, brick resimits include: —W. G. Bower, brick residence, \$15,000; remodelling of Vaacouver opera house, \$15,000; John MacLeod. frame dwelling, Comox street, \$4,000; Cook & Holmes, dwelling, 13th avenue, \$2,000; Wm. Carle, frame dwelling, 8th avenue, \$2,500; A. J. Paterson, Barclay street, \$3,550; Allan Bros., Beach avenue, \$4,000; S. S. Ferns, Ninth avenue, \$2,000; James Hav. Second Ja James Hay, Second avenue, \$2,000. The new \$40,000 office building of the B. C. Permanent Loan & Saving Co. will shortly be erected. Contractor A. E. Carter has the work in hand .- The resi-Granville street south dents on petitioned Council for the block paving of their street which will cost \$40,000.

—A large saw mill is to be erected on the north shore of English Bay.—The authorities have presented a petition to the Premier for the erection of a joint traffic and railway bridge to connect the North Vancouver District with the city and districts south. Estimated cost \$700,000 to \$1,000,000.-The North American Trading Company of St. Paul have purchased 260 square miles of timber lands on the Coast and Vancouver Island. Within a couple of years six saw mills will be erected.

TORONTO, ONT .- The asphalt plant will shortly be ready for operation and City Engineer Rust has been authorized to advertise for the necessary supply of asphalt.—A large Pitts-burg manufacturing concern will in all probability be shortly established in the old Dominion Radiator building, corner Queen and Dufferin streets.—All arrangements have been completed by the trustees of the Annette street Methodist church, Toronto Junction, for the erec-tion of a new \$40,000 building, and tenders will soon be taken. — The tenders will soon be taken. - The Montieal Loan & Building Company, Bioor street and Palmerston avenue, want tenders from all trades for store and pair of houses .- Tenders are wanted at Lunness Farm, Long Branch, for slate roofing, plumbing, plastering and hot water heating.—Plums are being prepared by Chadwick & Bickell for remodelling and improving the Church
of the Redeemer Sunday School, corner
of Bloor and Avenue road.—Robert
Crean Company, Limited, are making
extensive alterations to their hat factory on Balmuto street. - Hon. Aylesworth has promised Mayor Coatsworth the construction of the \$90,000 Island breakwater, and the sea wall in Humber Bry shall be proceeded with at once.— The Mayor invites tenders up to August 27th for constructing and placing two groynes on Lake Ontario. Specifications at City Engineer's office.—H. F. Mc-Naughten, Secretary, Public Works De-partment, wants tenders up to August 27th for erection of Court House and Registry Office at Sudbury, and up to August 20th for construction of concrete superstructure to wharf at Mimico Asylum. Specifications can be seen at the Department. — The following building permits have been issued: T. Harmon, three attached 2 storey brick dwellings, near Bloor street, on 709, 711 and 713 Euclid avenue, \$6,000; W. W. Hiltz, one oair semi detached 2 storey brick dwellings, near Hogarth avenue, on east side of Broadview avenue, \$6,000; J. H. Charlebois, four attached 2½ storey brick dwellings, near College street, on west side Bathurst street, \$5,000; Deeth & Sons, three attached 2 storey brick dwellings, near College street, on east side of Dufferin street, \$5,000; J. A. Harvey, one pair semi detached 2 storey and attic brick dwellrigs, near College street, on west side Rusholme road, \$6,000; Gordon Eadie, 2 storey brick dwelling, near Bloor street, on 403 St. Clarens avenue, \$2,500; J. R. Marshall, two detached 2 storey

and attic brick dwellings, near Low-ther avenue, on east side Brunswick avenue, \$8,000; W. S. Henderson, 2 storey brick dwelling, near Bloor street, on 316 Margueretta street, \$3,000; John Murray, one pair semi detached 2 storey brick dwellings, near Barton avenue, on west side Clinton street, \$4,000; A. T. Stewart, two pair semi detached 2 storey brick dwellings, near Crawford street, on the north side of Arthur street, \$8,000; Robert Crean Co., 3 storey brick ware-\$8.000: house, near C21 street, on the east side of B ilmuto street, \$10,500; Stauntons, Limited, 2 storey brick and steel boiler room, near Belmont street, on 499 Yonge street, \$2,000; J. McKinnon, one pair 2 storey roughcast dwellings, brick fronts, near Emerson avenue, on Armstrong avenue, \$4,000; W. H. Thompson, one pair semi detached 2 storey brick one pair semi detached 2 storey brick dwellings near Avenue road, on 109-111 Marlborough avenue, \$5,000; Hortop Milling Co., 2 storey galvanized iron storage shed, near Dufferin, on G. T. R. siding, \$2,000; C. Miller, addition to hotel, northwest corner Queen street and St. Patrick Square, \$2,000; F. J. Cummings, one pair of semi detached 2 storey dwellings, near Roncesvalles e, on 1346 College street, \$4,000; brick Mr. McIntosh, 3 storey brick dwelling, near Argyle street, on west side Shaw street, \$3,000; J. C. Forman, 2½ storey brick dwelling, near Victor avenue, on 437 Broadview avenue, \$5,500; W. J. Grant, one pair semi detached 2½ storey brick dwellings, near Roncesvalles avenue, on south side Pearson avenue, \$5,000; P. McConry, one pair semavenue, on south side Pearson avenue, \$5,000; P. McConry, one pair semi detached 2 storey brick dwellings, near London street, on 748-750 Eurlid avenue, \$4,500; Geo Griffin, 2½ storey brick dwelling, near Czar street, on 34 North-son avenue, \$5,000; Theron Gibson, one pair semi detached 2 storey brick dwel'ngs, Lansdowne ave, Nos. 593 and 595,

#### CONTRACTS AWARDED.

PORTAGE, MAN.—The contract for the new Union Depot has been let to Jeffrey Bros.

NORTH BAY, ONT.—Chamberlain Bros., of Chesley, P. Q., have obtained the contract for the new Opera House.

KINGSTON, ONT.—The T. & N. O. Railway have awarded the contract for ten new engines to the Canadian Locomotive Co.

VANCOUVER, B.C.—It is announced that McDonald, Wilson & Synder have been awarded the contract for the new Court House.

PRINCE RUPERT, B. C.—The United Supply & Contracting Co. have secured the contract for a large warehouse to be built on the G. T. P. wharf.

THOROLD, ONT.—The following tenders have been awarded: Sedimentation Basin: Gartshore & Thompson, \$4,881.27; pipe laying, Fraser & Ward, \$2,016 and \$1,223.92.

COLBORNE, ONT.—Frank Neagle has secured the contract for the wheeled rig factory. The building is to be 272 feet long, 60 feet wide, two stories, and is to be completed in October.

to be completed in October.
PRINCE ALBERT, SASK.—Steam
heating and plumbing for the following
buildings: Baker block, Pollock block,
Ross block, Moore block, McKay &
Adam block, Presbyterian church and
the Presbyterian Manse; O. B. Manville.

LETHBRIDGE, ALTA—In connection with the C.P.R.'s enormous steel beidge, the following contracts have been let: Building abutments and concrete superstructure, John Gunn & Sons, Winnipeg, reported cost \$200,000; superstructure, Canada Bridge Company, Wellserville, Oct.

GRAVENHURST, ONT.—The Corporation are installing a hydro-electric plant at South Falls, for the supply of

Power and Light in Gravenhurst. W. M. Beall & Co. are building the eight miles of transmission line including 1 a telephone line, connecting South Fals and Gravenhurst.

WINNIPEG, MAN.—The Board of Control have recommended the purchase of 4,000 ties required in tramway work from E. F. Kendall, Kenora, at 30 cents a piece, also 200 tons of 56 pound rails, from John Godson, Toronto, at \$39,25 a ton.—J. O. McArthur has secured the contract for the C. P. R. extensions north of Moose Jaw at \$300,000.—The Corporation have awarded the contract for 200 tons of steel rails to J. J. Gartshore, of Toronto.

#### FIRES

Buildings of Central Canada Exhibition Association, Ottawa, Ont., loss \$25,000.—Wharves and offices, Toronto Ferry Co., Toronto, loss \$4,000.—Business block and properties of Gilmour & Richardson at North Bay, Ont., total loss \$50,000.—Six houses, property of Mrs. McClenlan, Ottawa, Ont., loss \$4,000.—Factory of Dominion Furniture & Mfg. Co., also Forget's Hotel, Ste. Therese, Que., totally destroyed, loss \$1,000.—Warehouse, barns and sheds of J. B. Jackson, Simcoe, Ont., loss \$5,000.—Methodist Church, Muir street, Welland, Ont., loss \$12,000.—Sawmills and machinery, of Miller & Seim, Hampden, Ont., total loss \$7,000.—Barns and cars of the South-Western Traction Co., London, Ont., totally destroyed, loss \$75,000.

#### NEW COMPANIES.

The Don Bessemer Ore Company, Limited, Port Arthur, Ont., incorporated, capital \$7,500,000. Directors, W. F. Langworth, and A. J. McComber, of Port Arthur, and R. J. Anderson, Minneapolis.

Canada Hide & Wool Co., Sherbrooke, Que., incorporated, capital \$200,000. Incorporators, Charles J. Beal and W. F. D. Tanner, of London, Ont., and H. E. MacIntosh, L. R. Dowfar and W. J. Dubbo, of Montreal.

James L. Burton & Son Lumber Company, Limited, Barrie, Ont., incorporated, capital \$250,000. Incorporators, James Lindsay Burton, F. L. Burton, W. H. Walker, F. C. Lett and A. Alexander. Mackie Bros. Limited, North

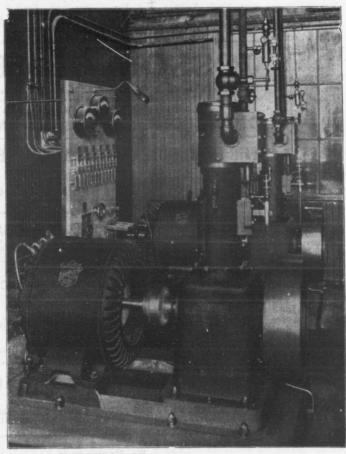
Mackie Bros. Limited, North Bay, Ont., incorporated as hardware merchants and to carry on a general plumbing, heating and electrical business. Capital \$100,000. Incorporators, A. T. Mackie, W. L. Mackie, B. S. Leak and others, all of Pembroke, Ont.

The Beaty Timber Company, Limited, Toronto, incorporated, capital \$100,000. Directors, Malcolm Macnair, James Philip Beaty and Cassie Macnair.

Larder Lake International Mines, Limited, Port Arthur, Ont., incorporated, capital \$5.000,000. Directors, W. H. Cluff, W. S. Cluff, D. C. McLaren, A. Rosenthal and O. E. Culbert of Ottawa, and J. Mowat of Kingston.

Canadian Wolverine Company, Limited, Chatham, Ont., incorporated to deal in factory and waterworks supplies, and machinery. Capital \$100,000. Incorporators, L. A., H. C., and C. W. Cornelius,

# Electric Light Plants



Two of our 11 K.W. Generators and Auxilliary Apparatus, forming the lighting plant of Dow's Brewery, Montreal. The base of each set is only 57½ in. x 32 in.

"Allis" Mining, Saw Mill and Flour Mill Machinery, Engines, Pumps, Steam Turbines, Turbine Water Wheels.

"Bullock" Electric Apparatus.

"Ingersoll" Air Compressors, Coal Cutters and Rock Drills.

"Lidgerwood" Hoisting Engines.

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WINNIPEG: 251 Notre Dame Ave.

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

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14, 1907

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Company, incorpornd waternachinery. rporators, Cornelius, all of Grand Rapids, Mich., and R. Gray and W. H. Westman of Chatham

Interlocking, Piling and Engineering Company, Limited, Toronto, incorporated, capital \$200,000. Directors, H. E. Pearce, A. Gate, W. H. Smith, George Kerwin and Matthew Irving all of Toronto.

The Green River Electric Company, Limited, Edmundston, N.B., incorporated as electricians, manufacturers and dealers in electricity for motive power, heat and light, capital \$49,000. Incorporators, J. E. Stewart, J. G. Donworth, T. M. Richards and others.

Spruce Lumber Company, Limited, Winnipeg, Man., incorporated, capital \$45,000. Incorporators, D. B. McDonnell, Winnipeg; and W. C. Perkins, Chas. McDonnell, H. H. Williams and M. C. Edev. Ottawa.

The Japanese General Contract Company, Limited, Vancouver, B. C., incorporated as shippers and importers and exporters of merchan-

Canadian Jack Company, Limited, Windsor, Ont., incorporated to manufacture farm implements. Capital \$25,000. Incorporators, W. Yakey, M. Riddle, H. H. Calkins, Harvey Greene and others.

British Canadian Distilling Company, Limited, Owen Sound, Ont., incorporated, capital \$50,000. Directors, W. Taylor, J. D. Mor-

### A. LEOFRED (Graduate of McGill).

Consulting Engineer WATERWORKS A SPECIALTY.

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EARTH LOADED STONE LOADED

WATER LOADED REINFORCED CONCRETE V

### DAMS

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HYDRAULICS, WATER POWER DEVELOPMENT

REPORTS, ESTIMATES, ETC.

TORONTO STREET TORONTO gan, J. P. Raven, W. H. Sinclair, J. C. Crane and H. M. Graham.

#### AMHERST ENTERPRISE

A pressing need has been supplied to the industrial community of Amherst by the installation of an electric power plant by the Maritime Coal, Railway and Power Company, who with considerable ingenuity have utilised the hitherto

valueless coal at Chignecto for the generation of electricity which they effectively transmit over 61/2 miles.

Cope & Frey, electrical supplies, Vancouver, have dissolved.

Baxter Patterson Engineering Supply Company of Montreal have dissolved. Ctaik & Lindsay, general contractors, of the same city, have registered.

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

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### THE JOHNSON CORRUGATED STEEL BAR



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Largest Makers of Cast Iron Pipe in the World

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SIZES: 11/2 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.

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W. BEVERLEY ROBINSON

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#### BUILDING IN TORONTO.

The monthly statement issued by the City Architect of Toronto, shows that the building permits issued to date this year represent the large sum of \$10,239,330. Following is the statement :-

Approx. value of		
	1906	\$10,239,330
Approx. value of buildings for		
No. of building permits issued Jan. 1 to Ju-	1,193,435	1,219,435
No. of buildings for which per- mits were is-	2,015	2,456
sued for July No. of new buildings e- rected from Jan. 1 to	460	538
July 31	2,624	3,562

#### PERSONAL

Prof. E. Brydone Jack has been appointed to the Chair of Civil Engineering in the University of Manitoba.

Mr. E. H. Keating and Mr. Wm. H. Breithaupt have announced the formation of an engineering partnership under the name of Keating & Breithaupt, with offices in the Aberdeen Chambers, Victoria street, Toronto. They will carry on business as civil engineers, taking up all branches of railway and municipal work, power developments, bridges, etc.

Snow-load on roofs is the subject of some recent maasurements by Mr. S. de Perrot, of Neuenburg, Switzerland. Where a heavy fall of snow was followed by thawing and freezing successively and then more snow, and thus in repeated cycle, a coherent laminar mass of snow and ice is formed on roofs, which is of remarkable density. Several such "snow" accumulations proved to have a weight of 36 to 38 lbs. per cu. ft. In these cases the thickness of the accumu-

#### THE PRIESTMAN EXCAVATOR AND DREDGER

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

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

lated snow on the roof was 24 to 32 ins., thus producing a load of 70 to 100 lbs. per sq. ft. This is three or four times as much as is commonly assumed in calculation. Unfortunately the note from which these quote observations (Schweizerische Bauzeltung, March 2, 1907), does not state the pitch of the roof surfaces in question. It is to be observed that the past witter has been a season of exceptionally heavy snowfall. On the Arlbers, it is reported, a total of 27 ft. of snow has fallen this winter.





NOTICE to CONTRACTORS and QUARRYMEN

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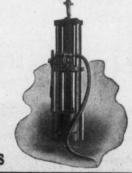
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### Reasons!

They require less attention during driving.

They do not shatter the Pile. They can drive pile when the drop h

There is no wearing out of hoisting lines.

They drive more piles in a day.

They usually leave the pile so that it need not be cut off. They make sharpening of piles ordinarily unnecessary.

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Georgian Bay Engineering Works

### THE ELECTRIC PLANT AT EAST TORONTO

In the summer of 1904 the Corporation of East Toronto, Ont., decided to build a power house and install an electric plant. The power house, shown in the accompanying illustration, is a brick structure, and the electric plant contained therein serves the purpose of supplying both light and power, the water-

Power House, East Toronto, Ont.

works system being operated by electricity. The consulting engineer for the work was Mr. John Galt, of Toronto.

The engine is a single cylinder non-condensing Goldie Corliss engine, built by the Goldie & McCulloch Company, Limited, Galt, Ont. The diameter of the cylinder is 17 inches and the stroke 30 inches. The engine runs at a speed of 120 revolutions per minute. The rated load of the engine is 225 indicated horse-power, but owing to the double eccentric type

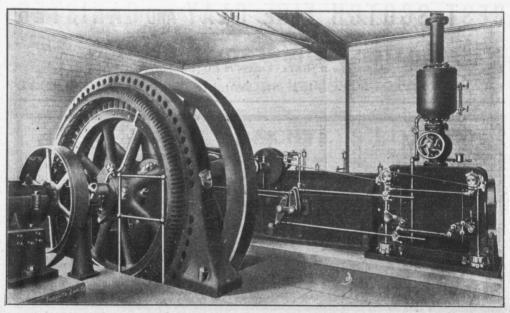
In the summer of 1904 the Corporation of East of valve motion the engine is capable of carrying an oronto, Ont., decided to build a power house and overload of 60 per cent. above its rated capacity.

The engine is fitted with the Rites inertia governor, which is specially adapted for running high frequency alternators in parallel, and the flywheel is of sufficient capacity to enable the generator to be run in parallel with another 60 cycle machine. The field of the generator is mounted directly on the engine shaft, which also carries a pulley from which the belted exciter is driven.

The generator, which was furnished by the Canadian Westinghouse Company, is a 150 kw. 2,200 volt 3 phase 60 cycle revolving field machine, operating at 150 revolutions per minute. It has 48 poles, and the frequency is 7,200 alternations per second. The exciter is a 15 kw. 125 volt direct current multi-polar compound wound generator operating at 1,050 revolutions per minute. The switchboard is of blue Vermont marble, containing the usual instruments. The original installation comprised three transformers, 7,200 alternations, 2,080 volts primary, 575 volts secondary.

The turbine pumps and motors were furnished by the Canadian General Electric Company. There were in the original installation two 6 inch 3 stage turbine pumps, each having an easy capacity of 660 gallons per minute when operating against a pressure of 100 pounds per square inch. Each pump is direct connected to a 60 horse-power alternating current motor of suitable speed to operate the pumps against the desired head at maximum efficiency. When operating under exact conditions, as stated, the commercial efficiency of the pumps is guaranteed to be not less than 75 per cent.

The water tower, shown in the illustration, was furnished by the Canada Foundry Company. It is a steel tower with tank, the top of the tank being 120



VIEW OF ENGINE AND GENERATOR, EAST TORONTO MUNICIPAL PLANT.

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urs a 120 feet above the top of the foundations. The tower is erected on steel trestle work over a steel reservoir 50 feet in diameter by 20 feet high, the top of the foundation of the trestle being on the same level as the



WATER TOWER, EAST TORONTO, ONT.

bottom of the steel reservoir. The capacity of the water tower is 80,000 imperial gallons, which is used for fire protection purposes exclusively, while the reservoir has a capacity of 200,000 imperial gallons.

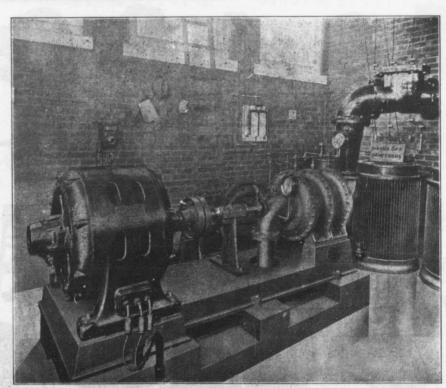
#### PLATINUM.

A company has been incorporated in London, known as the Platinum Corporation, with a capital stock of \$1,500,000, to develop concessions in the platinum-bearing districts of Russia, which for nearly a century has been the producer of nearly 90 per cent. of the platinum supply of the world. Platinum sold in 1892 for less than \$10 an ounce. In two years the price had risen to \$18.50, and in December of that year it was \$19.50. In April, 1905, it brought \$20.50. It continued to advance until in February, 1906, it sold for \$25. Last September it was quoted at \$34. The top-notch price of \$37 and \$38 was reached in March, this year, and then the price gradually declined to \$25 on July 1st. Three weeks ago there was an advance of \$1.

Platinum is almost indispensable in the manufacture of incandescent electric lamps and is also required for contacts in telephone switchboards.

#### CIVIC PLANT TO BE ABANDONED.

The Board of Control of the City of Winnipeg has decided to abandon the city's electric lighting plant, and to purchase the current required from the Street Railway Company. It is claimed that the purchase of the power from the Street Railway Company will mean a saving of close upon 50 per cent. on the cost of generating it. At the present time the city is generating current for the direct current lamps, used for street lighting. These lamps number about 200. The city also supplies the power necessary for the wells except for the fire booster at well No. 2, which is supplied by the Street Railway Company.



VIEW OF TRANSFORMERS, MOTORS AND TURBINE PUMP, EAST TORONTO PLANT.

#### RATES FOR WATER SERVICE.

(Continued from last week.)

The fixing of rates for private fire protection is so intricate a problem, and involves consideration of so many points, that no fixed rule can be laid down that will fit all cases. It is believed that a reasonable sliding scale of rates for such service might be arrived at as follows: A minimum rate for the smallest size of fire service pipe, and larger rates for larger service pipes, the rates for each size of fire service pipe to bear some approximately uniform relation to the special benefits derived by the private interests protected.

Rates for water for purposes other than fire protection are of two general classes: fixture rates and meter rates. Originally all water was sold at fixture rates; but the necessity for checking waste, and the recognized inequity of fixture rates, as applied to individual cases, have brought about the introduction of meters, which is now going on at a constantly increasing speed. The earliest fixture rates were necessarily established largely by guess; and later ones have been fixed, sometimes by taking the average and sometimes by picking out the lowest of all the guesses made by previous guessers. Little or no account was usually taken of the difference in cost of furnishing

water in different locations and under varying conditions.

That fixture rates are not now, as a rule, excessive is indicated by the fact that when all legitimate expenses are charged up, few municipally-owned plants earn large profits; and that the securities of private water companies are no longer so eagerly sought by investors as they were some years ago. The objection to fixture rates as a basis of the value of water service does not lie in the fact that they cannot be made, in the aggregate and for any one city as a whole, as equitable as any other rates; for this is not only possible, but is a condition which actually obtains within reasonable limits in many cities. with fixture rates no close discrimination can Le made between individual cases; and they therefore fail to fulfil the second essential condi-tion of a fair rate. Furthermore, they fail to check waste and leakage.

These considerations naturally lead to the adoption of meter rates. In almost every city the introduction of meters, if accompanied by the establishment of proper rates, can be made to result in benefit to the water department as well as to the consumer.

The cost of the introduction of meters and of their subsequent maintenance and operation will, with proper rates, be more than offset, and without hardship to the consumer, by the savings in pump-

ing expenses and in the costs resulting from extensions to plant which would otherwise have to be made.

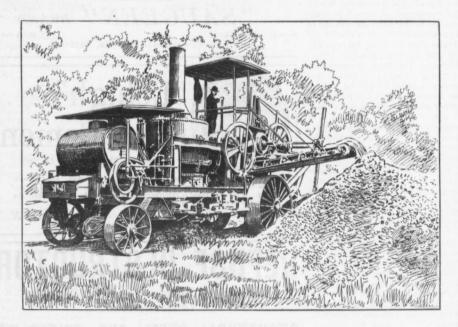
The function of the meter is two-fold: (1) To check waste, and (2) to measure the water used by each consumer, with a view to making his annual payments bear a just proportion to the total fair annual receipts from the works. To treat the meter simply as a device by means of which certain individual consumers may reduce their rates below the fair amount, leaving other consumers to make up the loss, is to defeat its honest purposes.

In order that the meter may properly perform its two-fold function, it is absolutely essential that the meter rates be established on a proper basis. In view of the everincreasing use of meters, no more vital problem to-day confronts the manager of a water department than the determination of what these rates should be in his city; and it is a problem the solution of which demands the highest degree of skill, careful study of all the conditions, and a wide experience in the financial management of water-works.

Nothing is more fallacious than the oft-repeated argument of some unthinking advocates of the universal introduction of meters, that when a man buys water by the gallon he pays for what he gets. Each consumer, whether he uses little or much water, enjoys the benefit of a

(Continued on page 14.





OUR

# TRENCHING MACHINES

Working in Edmonton, Alta., Regina, Sask., and Maisonneuve, Que., have been making an average for this season of 400 c. y. per day of 10 hours; in some days they excavated as much as 690 c. y.

Any contractors wanting to save money should not be without one of our Machines.

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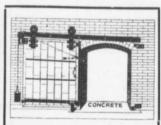
water service always at hand, always convenient. This benefit is the element which is usually termed the "readiness to serve," and the expense to the water department of its readiness to serve is always far greater than the mere cost of pumping and distributing water. Furthermore, the fixed charges and operating expenses for each meter service amount to several dollars per annum; and this expense, together with a sum sufficient to cover the "readiness to serve," is properly chargeable to each consumer, large or small, before the rate per gallon can fairly begin to apply.

To provide for these two expenses, the first method which naturally suggests itself is the establishment of a minimum meter rate. Here again there is a pitfall. If this minimum be too small it will not accomplish its purpose. If it be too large, or if the rate per gallon for small daily uses be too small, the average domestic consumer may draw far more water than he actually needs without paying more than the minimum rate; and this condition will destroy the usefulness of the meter as a means of checking waste.

To set meters wholesale, without due regard for the foregoing facts, would not only work an injustice to some classes of consumers, but might mean financial disaster to the water department; and this in turn would be a misfortune to the whole community.

To develop the full efficiency of the meter as a means of checking waste, and to make each consumer, large or small, pay his fair share of the total receipts of the work,

(Continued on page 16.)



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We save you money and take all the responsibility on

#### TIN-CLAD FIREPROOF DOORS

We make the doors, cover them, supply the hardware, use an "ADJUST-ABLE HANGER," and hang the doors complete. All work strictly to the Underwriters Requirements.

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# "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—

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Automatically proportions any three different materials crushed rock and course aggregates for large contract work. Made in all size fitted with any kind of power. For Street Paving, Sidewalk, Reinforced Construction, Block and Brick plants there is no Mixer equal to it. A greater capacity and better mix with exact proportions and requires less amount of power than any other Mixer. All parts made extra heavy, strong and lasting.

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### 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 Fort William and Port Arthur.

THE LAKEFIELD PORTLAND CEMENT CO.,

#### CLASSIFIED INDEX OF ADVERTISERS ACCIDENT INSURANCE Page DRILLING CONTRACTORS PIPE (CAST IRON) Harvey, J... Ontario Accident Insurance Co..... 19 DEBENTURES Nay, Anderson & Co. 21 Stimson & Co., G. A. 19 **BLOWERS** Co. 27 Gaudry & Co. L. H. 18 Canadian Iron & Foundry Co. 25 Stanton Iron Works Co. 8 Buffalo Ferge Co..... 8 ENCINEERS AND CONTRACTORS British Columbia General Contract Co. 20 Toronto Fire Brick Co. ...... 11 PIPE (WOODEN) Canadian Pipe Co. 25 Dominion Pipe Co. 25 Pacific Coast Pipe Co. 25 ENGINEERS (CIVIL) ENGINEERS (GIVIL) Aitken, K. L. 23 Canadian Engineers, Limited. 22 Chipman, Willis. 23 Connor, Clarke & Monds. 23 Davis & Johnston. 22 Fenson, C. J. 22 Fielding, John S. 8 Galt & Smith. 18 Jackson, John H. 23 Lea & Coffin. 23 Leofred, A. 8 PLUMBERS' SUPPLIES PUMPS AND PUMPING MACHINERY Lea & Coffin 3 Leofred, A. 8 Macallum, A. F. 22 McDougall & McRae 22 Pitt & Robinson 23 Smith, Kerry & Chase 23 Scott, Wm. Fry 22 ROAD MACHINERY ENGINEERS (MECHANICAL) Hyde & Co., F. 21 Hanover Portland Cement Co. 14 Lakefield Portland Cement Co. 14 Climax Road Machine Co. 20 Heaman, George. 27 Morrison & Co., T. A. 20 Mussens Limited 3 Sawyer & Massey Co 9 ENGINES | Allis-Chalmers-Bullock. 7 | Cameron & Co., Hugh 20 | Laurie Engine & Machine Co. 16 | Rogers Manufacturing Co. 24 | Sawyer & Massey Co. 16 Allis-Chalmers-Bullock CONTRACTORS' SURETY BONDS **ELECTRICAL APPARATUS AND SUPPLIES** STEEL BARS (CORRUGATED) Corrugated Steel Bar Co. of Canada... Canadian Gen. Elec. Co....... Drummond, McCall & Co...... Northern Electric & Mfg. Co...... United States Fidelity & Guaranty Co. 22 STRUCTURAL IRON AND STEEL CONCRETE MIXERS AND MACHINERY Baxter, Paterson & Co.... FIRE APPARATUS Cameron & Co., Hugh 20 McGregor & McIntyre 18 Morrison & Co., T. A., 20 Seagrave, W. E., 16 Crushed Stone, Limited 16 Doolittle & Wilcox 22 Morrison & Co , T. A. 20 HOISTING MACHINERY SHOVELS (STEAM) Mussens Limited 3 Rogers Manufacturing Co. 24 Toronto Pressed Steel Co. 18 SEWER PIPE **HYDRANTS** Wallington, G. P..... SHOVELS TELEPHONE SUPPLIES LOCOMOTIVES AND RAILS Northern Electric & Mfg. Co..... CONTRACTORS' EMPLOYMENT BUREAUS North Western Employment Agency.. Reliance Labor Exchange.......... Zarossi, Banco..... TANKS AND STAND PIPES Sessenwein Bros..... P. W. St. George.... CRUSHERS (STONE AND ROCK) Allis-Chalmers-Bullock. 7 Beatty & Sons, M. 21 Canada Foundry Co. 27

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Hopkins & Co., F. H. 28
Mussens Limited 3
Morrison & Co. T. A. 20
Sawyer & Massey Co. 16

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meter rates should be established about as follows:

- (1) The minimum rate should be nearly large enough to provide for the "readiness to serve," as well as for the added expense of the meter service.
- (2) There should be a sliding scale of rates for measured water.
- (3) The highest rates in this scale should be so adjusted that the average domestic consumer could draw, without exceeding his minimum rate, only enough water for his reasonable requirements, so that the incentive to avoid waste might always be present; and the lowest rates in the scale should be such as to encourage large consumers to patronize the water department, the profits from this patronage being, of course, ultimately applicable to the lowering of rates to all consumers.

From all of the foregoing, it will be seen that rates of all clases are co-related. The total receipts should just provide for the total legitimate expenses, as enumerated in the definition of the first essential condition of a fair rate. Each class of service should be made to furnish its quota of the total receipts from all classes of services; and each individual consumer should pay his just proportion of the total receipts from the class to which he belongs. It is admitted that this ideal state of affairs can never be fully realized in actual practice; but many notable instances of mistakes already made in the establishment of rates furnish abundant proof that a careful, sane and intelligent study of conditions will do much towards approximating the desired results.

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JENKS & DRESSER SARNIA, ONT.

BUILDERS OF

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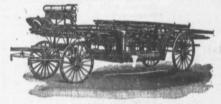
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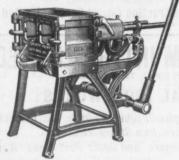
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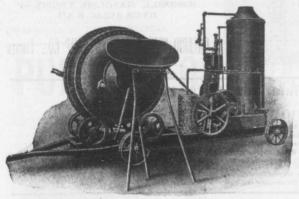
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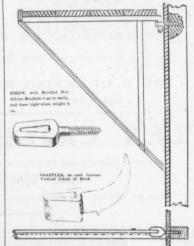
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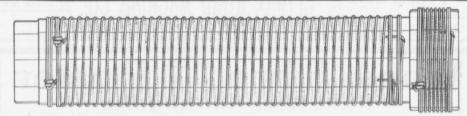
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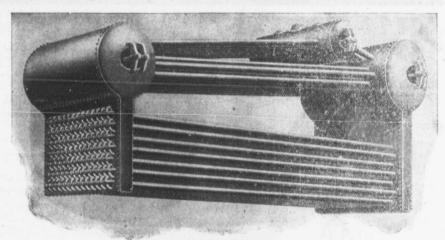
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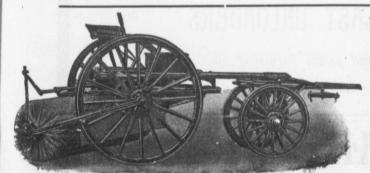
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