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

VOI. 12.

OCTOBER 9, 1901

No. 36

THE CANADIAN CONTRACT RECORD

PUBLISHED EVERY WEDNESDAY

Asan Intermediate Edition of the "Canadian Archit ct and Builder."

Subscription price of " Canadian Architect and , including " Canadian Contract Builder" Record"] \$2 per annum, payable in advance.

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

INFRORRATION LIFE BUILDING, FORONTO

Telephone 2362.

Branch Office:

Imperial Building, Mon real.

Telephone Main 2200.

Advertising Rates on application.

Subscribers who may change their addres hould give prompt notice of same. In doing o, give both old and new address. Notify the * iblishers of any stregularity in delivery of paper.



Scaled tenders addressed to the undersigned and endorsed "Tenders for fittings, Armouries, Windsor, Ont." will be received at this office until WEDNESDAY, 16TH OCTOBER, 1991, inclusively, for the fittings required for the Drill Hall, Windsor, Ont.

Plans and specifications can be seen and forms oftender obtained at this Department and at the office of Charles Smith, Clerk of Works, Windsor, Ont.

Ont.
Sealed tenders endorsed "Tender for fittings,
Post Office, Picton, Ont." will also be received
at the same thus for fittings required for the
post office building, Picton, Ont.
Plans and specification can be seen and forms
of tender obtained at this Department and at the
office of Peter Putver, Clerk of Works, Picton,
Out.

once of Peter Patver, Clerk of Works, Picton, Ont.
Persons tendering are notified that tenders will not be considered unless made on the form supplied, and signed with their actual signatures. Each tender must be accompanied by an accepted cheque on a chartered bank, made payable to the order of the Honourable the Minister of Public Works, equal to ten per cent. (to p.e.) of the amount of the tender, which will be forfeited if the party decline to enter into a contract when called upon to do so, or if he fail to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department does not bind itself to accept the lowest or any tender.

FRED. GELINAS

Department of Public W 1ks, Ottawa, Sept. 28th, 1901.

Newspapers inserting this advertisement without authority from the Department will not be paid

CONTRACTING MANUFACTURERS

A young man with good education and address desires employment with a contracting manufacturing firm where there would be opportunity to advance. Understands shipping and freighing of merchandies and material, and has done some travelling. Apply Box 38, CONTRACT RECORD. RECORD

PUMPS AND WATER WHEELS FOR SALE

I right and 1 left hand 48 inch Leffel Water Wheels.
2 No. 6 Rotary Pumps with large air chamber shafting, gearing and boxes complete 1 large Lecap. Valve and connecting papes &c. The above are in good condition and will be sold cheap. For further particulars apply to

J. W. SANDERS.

Town Clerk.

COAL TAR FOR SALE

Port Hope, 25th Sept., 1901.

Would Contract to Supply Year's Output.

APPLY TO

Stratford Gas Co.

STRATFORD, ONT.

TENDERS WANTED

Drainage Work

Scaled tenders endorsed. Tenders for Dramage, and addressed to 1. A. tockburn Crysler, will be received up to the hour of 10 octook, a.m., on TUESDAY, THE ESTH OCTOBER, 1901, for the construction of a Drain known as the stark Creek Dram. Estimated cost \$1,300. Plans, specifications, forms of tender Sea, to be seen at the office of J. A. Cockburn, Clerk of the Township of Finch, and at the office of T. H. Wiggins, Engineer, Frach.

The lowest or any tender not necessarily accepted.

JOHN K. MCLEAN, Reeve J. A. COCKBURN, Clork,

T. B. WIGGINS, Engineer.

Corporation of Three Rivers

Scaled tenders will be received at the office of the undersigned, until 40 clock p.m., MONDAY, THE TWENTY FIRST (218T) DAY OF OCTOBLE MEAN, for the purchase of the following denominations: "St. Maurice Bridge Bonds," (to the amount of one hundred and twenty-five thouss, "I dollars (\$1,000), "Drainage Bonds, (to the amount of twenty five thousand dollars (\$2,000); "Paving Bonds," to the amount of ten thousand dollars (\$2,000); "Paving Bonds," to the amount of ten thousand dollars (\$2,000), all of which will be redeemable in so years from the first May, 1901, and bearing interest at the rate of three and a half per cent. (19 pc) per aumum, payable semi-annually.

L. T. DESAULNERS,

I. T. DESAPENIERS. Sec.-Treas. These Rivers Corporation.

City Hall, Three Rivers, 25th Sept., 1901.

TENDERS WANTED

HOUSE OF REFUCE

Scaled tenders will be received by the undersigned until IUESDAY NOON, OCTOBER 871 1001, for the erection of a House of Refuge fighter County of Ontario.

Plans and specifications may be seen at 11 offices of the architects, G. M. Miller & Co., Younge street, Toronto; of James Carr xi Chairman of the Iniliding Committee, Polyerry, and of the County Clerk, Whitby.

The lowest or any tender not necessarily a cepted.

JNO E. FAREWELL, County Clerk, Whith;

and endorsed "Tender for Heating apparatu windson, out., will be received at this official windson, out., will be received at this official windson, out., will be received at this official windson, out. OCTOBER arm, inclusively, for the supplying and placing in position of heating apparatus at the Drift Hall, Windson of the coording to plans and specification to I seen at the Department of Public Work oftawa, and at the office of chartes smith, car of Works, Windson, Out.

Tenders will not be considered unless made on the form upplied, and signed with the actual signatures tendered.

As a cylindron a a chartered bank taxable to

tenderers.

At we epted cheque in a chartered bank trayable to the inder of the Minister of Public Works, equal ten per cent, (to p.e) of the amount of tender, musicumpany each tender. The cheque will be forfeite if the party decline the contract or fail to complet the wirk contracted for any win be returned in each of non-acceptance of tender.

The Department does not band itself to accept the lowest or any tender.

By order.

FRED. GELINAS,

Secretary.

Department of Public Works.

Otrawa, September 17th, 1951.

Newspapers inseiting this advertisement withou authority from the Department will not be paid for a

TENDERS

Tenders will be received up to coclock p.m. on TI ESDAN, THE sytu INST, for the necessary Carpenter and Joiners's Work, Plasterin band Painting and Glazing required for the conpleting of the

R. C. MEMORIAL CHURCH at Penetanguishene, Ont.

The building will not be required to be read for plastering before April 18th, 1902.

It will be necessary for the contractors t personally cost the building to obtain proper data on which to base their tenders.

Tenders are to be addressed to the Revd Tl I Laboureau, Penetang Plans and specifications can be seen at the Presbytery, Penetang, and also at the office of the architect, A. W. Holmes, 170 Spadma avenue?

Toronto.

The lowest or any tender will not necessaril be accepted.

CONTRACTS OPEN.

SPRINGHILL, N. S - A new post-office is under construction here.

AMHERST, N.S.—Dykes in this vicinity were destroyed by floods last week.

HILLSIDE, ONT. - Mr. Hodgson, postmaster, is about to build a new residence.

RICHMOND, QUE.—J. P. Lane has purchased a lot and intends building a new hotel

PRINCE ALBERT, N. W. T.-It has been decided to build the proposed elevator by day labor.

ORANGEVILLE, ONT.—The county council has decided to spend \$66,000 in improving the county road.

SAULT STE. MARIE, ONT.—The Superior Brewing Co. will erect a brewery here 330 x 400 feet.

OTTAWA EAST, ONT.—About \$1,000 has been subscribed towards the erection of a new church here.

CORNWALL, ONT.—A movement has been started in the city council to take over the electric light plant.

NEWMARKET, ONT. - S. Traviss is about to build a residence on corner of Huron street and Prospect avenue.

GRANBY, B.C.—The construction of a smelter will be commenced by the Granby Smelter Co. next spring.

OAKWOOD, ONT - J R Weldon is taking tenders up to 12th inst for laving tile drain; estimated cost, \$1,432.

LANARK, ONT. - Surveyors last week located the route of the proposed radway between this place and Carleton Place.

GEORGEVILLE, QUE. - Charles Boynton, of this place, purposes building a saw mill if a suitable location can be found.

AMHERSTBURG, ONT.—Tenders have just been taken by the town for the construction of a sewer on Rankin avenue.

PARRY SOUND, ONT.—It is said that the Parry Sound Lumber Co. intends starting a Lox shook factory next spring.

BLYTH, ONT. — On October 18th the ratepayers will vote on a by-law to loan Henry Beese \$6,000 to establish a flour mill.

GODFREY, ONT. — Tenders for building a school house in school section No. 2 are invited by John Giles up to October 20th.

ST. JOHN, N.B.—In connection with the C.P.R. improvements at Sand Point it is intended to erect a warehouse over 400 feet long.

IROQUOIS, ONT.—A by-law to borrow \$2,000 for construction of electric light plant was carried by the ratepayers last week.

COLLINGWOOD, Ol.T.—D. Wilhams is asking for tenders up to 19th inst. for the erection of a two-story, brick cased house.

BROCKVILLE, ONT.—There is an agitation for the construction of sewers on Perth and other streets, at an estimated cost of \$5,000.

CRYSLER, ONT.-J. A. Cockburn invites bids up to October 15th for construction of the Stark Creek diain; estimated cost, \$1,300.

STRATHCONA, N. W. T. — The Imperial Bank has purchased property on Whyte avenue and will likely erect a block next spring.

RICHIBUCTO, N. B.—Property on Queen street has been purchased by the Government as a sile for a new post office and custom house.

WINDSOR, ONT.—The Department of Public Works at Ottawa is taking

tenders up to toth inst, for fittings for the drill hall in this city

ST LOUIS, QUE. - The council has adopted a by-liw Arinting a bonus of \$25,000 to the L O Grothe Co. to extend their cigar factory.

CACHE BAY, ONT.—Tenders closed yesterday for erection of a two roomed school building. Particulars from George McFarland, secretary-treasurer.

WINDSOR, ONT. — Rev. Father Muenier has under consideration the erection of a large three-story build g for the use of the Catholic societies.

SMITH'S FALLS, ONT. — Thomas Jones has purchased the building known as the old stone house, belonging to the Matheson Estate, and will remodel it.

COLLINGWOOD, ONT.—It is said that negotiations are under way tooking to the removal of a large engine and boiler works from Toronto to this town.

RAPID CITY, MAN.—It is proposed to build a new four room school building to cost \$7,500, hot air heating, etc. W. H. Shillinglaw, of Brandon, architect.

INDIAN HEAD, N.W.T.—Bids are asked by H. H. Campkin, secretary-treasurer of the municipality, up to Tues day, 22nd inst. for the purchase of \$1,500 debentures.

REVELSTOKE, B. C.—Tenders are requested by B. R. Atkins up to 10th inst. for erection of Queen Victoria Hospital. Plans by W. T. Dalton, architect, Vancouver.

CEDAR HILL, ONT.—Tenders close 19th inst. for \$10,500 debentures to be issued by the township of Pakenhant. Particulars from Joseph Connery, township clerk.

SHAWINIGAN FALLS, QUE.— Tenders have just been taken by the secretary-treasurer of the municipality for the construction of a city half and of an acquedity.

MICHIPICOTON RIVER, ONT.—
It is understood that tenders are being taken for building a carril for the Michipicoton River Power Co., in which O. B. Saider is interested.

GODERICII, ONT.—The ratepayers of the town will vote or a by-law on Octo ber 21st to grant a loan of \$10,000 to William H. Smith to build a summer hotel here.

COATICOOK, QUE.—It is the intention of the management of the Eastern Township's bank to erect a new bank building on the corner of Main and Cutting streets.

THOROLD, ONT. — The Thorold Pulp Co. have made a proposition to the town to establish a pulp mill, the building and plant to be completed by July 1, 1912, and to cost \$70,000.

SANDWICH, ONT.--Tenders close toth inst. for purchase of \$10,000 detientures issued for purpose of building House of Industry. Particulars from Henry Moran, county-treasurer.

PICTON, ONT.—Tenders for fittings in the post office here are being called for by the Public Works Department,

Ottawa, up to 16th inst. Plans at the office of Peter Pulver, clerk of works.

DELORIMIER, QUE.-A by law will be introduced at next council meeting to grant certain concessions to the McCready Co. to establish a boot and shoe factory here. The proposed building will be 600x188 ft. and three-stories high.

PENETANGUISHENE, ONT.—Bids are wanted by 19th inst. for carpenter work and plastering of Memorial Church. Plans at the residence of the Rev. Father Laboureau. A. W. Holmes, 170 Spadina avenue, Toronto, is architect.

VICTORIA, B.C.—The by-law to borrow \$100,000 for extension of the sewerage system will be submitted to the rateparers to morrow.—The Boyle system of heating has been decided upon for the new high school. The architect is F. M. Rattenbury.

RICHMOND, QUE.—It is expected that a bridge across the St. Francis river will be constructed at an early date. Col. Harkon, manager of the Richmond County Electric Co., is the prime mover and is in negotiation with the town council with a view to obtaining a grant.

QUELEC, QUE.-It isofficially stated that the contract for the building of the loop line in connection with the Great Northern Railway from St. Gabriels to Garnean Junction has not yet been awarded.—It is probable that a double track will be built for the Great Northern road.

BI.ANDON, MAN.—Alexander Law & Co. have completed arrangements for the election this fall of a new 200 barrel grist mill, consisting of mill building 40 x 70 feet, 4 stores, warehouse 50 x 80 feet, and engine room 40 x 50 feet, stone and brick. W. H. Shillinglaw, Farchitect.

BRANTFORD, ONT.—Building permits were last week granted as follows: F. Grobb, brick-addition to residence, Victoria street, cost \$1,500; S. F. S.mpson, brick dwelling on Park avenue, cost \$2,850; George S.mpson, brick dwelling on Fort street, cost \$900; L. J. Biggett, brick residence on Superior street, cost \$900.

VANCOUVER, B. C.—The council has decided to purchase property on Alexander street as a site for proposed waterworks buildings and yards.—The Dominion Government has approved of the plans for the proposed Phæaix branch of the Victoria, Vancouver & Eastern Railway.—It has been decided to adopt the hot air system for heating the new Carnegie library.

TORONTO JUNCTION, ONT.— New houses will be built on High Park avenue by Mr. Ross, of the C. P. R., Mr. Staltz and B. Connell.—Jones Hall will build abother residence.— Mrs. Effen Johnston, of Toronto, has field with the town clerk plans for a new building to be erected on Dundas street, to be 20 x 40 feet and used as a Go-pel Hall.

HAMILTON, ONT.—The management committee of the Board of Education have decided to recommend the purchase of land adjoining the Mary street

FOREIGN and DOMESTIC PORTLAND CEMENTS

Pure refined Coal Tar for Tar Macadam Roadways and Pavements.

Sanitary Building Papers and Patent Wire Edged Ready Roofing for Municipal and other Buildings. ECONOMICAL DURABLE FIREPROOF

THE PATERSON MANF'C CO., LIMITED TORONTO MONTREAL ST. JOHN HALIFAX

school with a view to building thereon a twelve room school building.—Building permits were last week granted as follows. Robert Somerville, brick dwelling on Sanford Avenue, to cost \$1,000, Sun Oil Company, brick building, East Hamilton, to cost \$1,000.

CHESTERVILLE, ONT.—Bids are invited by Thomas Hamilton, reeve of the township of Winchester, up to November 1st, for the purchase of the following debentures: \$46,615.49 five per cent twenty year: \$1,530.46 four per cent ten year; \$855.92 four per cent five year; \$855.92 four per cent five year; \$1,786.50 four per cent ten year. The debentures are issued to provide for the construction of drainage work, the most important being the Petite Castore river and the Annable Creek drainage works.

WINNIPEG, MAN.—A survey party is now locating the route of the proposed C.P.R. branch to extend north-west from Moosmin—It is reported that the Winnipeg Street Railway Co. and the Ogilvie Milling Co. have combined with a view to bringing electric power into Winnipeg from the nearest available point on the Winnipeg river. Engineers are now making plans of the power development and plant.—A by-law will be submitted to the ratepayers at the next municipal election to issue debentures for the purpo e of improving and increasing the electric light plant.—The C.P.R. is making surveys for a railway from Greenway to Holdner, a distance of about 100 miles.—It is the intention of the Canadian Northern Railway Co. to erect next spring, new freight sheds on their property on Rorie street.—The Manitoba Water Power Electrcal Co. is seeking incorporation. The promoters include Henry Burkholder, financial agent of Chicago; N. G. Leslie, bank manager; I. M. Rose, contractor; and H. Cooper, financial agent, Winnipeg.

OTTAWA, ONT.—Alex. Fraser is about to make improvements to his water power at the Chaudiere, at an estimated cost of \$25,000, for which tenders are being taken.—The Department of Public Works invites tenders up to 21st inst., for the reconstruction of wharf at St. Nich-olas, I evis County, Quebec. Plans at olas, I evis County, Quebec. Plans at above department, at office of P. Beland, post office, Quebec, and at 411 Merchants Bank building, Montreal.—Extensive improvements, including the building of new piers, will be made at the Chaudiere slides at the close of navigation.—James Davidson, Chairman Board of Works, will receive tenders up to October 16th for construction of pipe sewers. Plans at the office of N. J. Kerr, city engineer—L. K. Lones, Secretary, Department, Pailways Jones, Secretary Department Railways and Canals, invites tenders up to 21st inst. for water power at Dam 5 of the Trenton canal, between Peterborough and Lakefield. Plans at above department and at office of superintending engineer, Lakefield.—Building permits have been granted as follows: Bank of Ottawa, granted as follows: Bank of Ottawa, addition to bank including new vault, cost \$12,000; Thomas Lowry, brick dwelling, 63 Frank street, cost \$900; William Mackay, addition to shop, 19 Sparks street, cost \$2,000; J. W. Venn, brick veneer dwelling, 19 Rochester street, cost \$2,200; George Matthew, brick stable and alterations to house, 47 and 48 Gilmour street, \$3,000; Jas. Wilson, brick veneer dwelling, 17 Slater street, cost \$1,800. Edward Selby, brick veneer dwelling, 20 Cartier street, cost \$800. W. W. Stumbles, of the Marine and Fisheries Department, Ottawa, has gone to Goderich, Penetanguishene and Waubaushene in connection with proposed harbor improvements at these places.

MONTREAL, QUE.—It is said that the capital has been subscribed for the proposed Longueuil bridge.—The directors of the Richelieu & Ontario Navigation Co. have decided to build another steamer.—The superintendent of the water department states that it will require about \$300,000 to make the necessary sepairs and improvements to the waterworks system.—The Grand Trunk Railway Co. proposes to build a modern elevator on Windmill Point as soon as the consent of the harbor commissioners can be secured. The plans for same are being prepared by R. A. Waite, architect.—The Standard Light and Power Co. has notified the city council that it is the intention to proceed with the laying of conduits for its underground wires.—The C. P. R. have under consideration an immense irrigation scheme in the Northwest Territories, by which it is proposed to reclaim barren lands between Calgary and Medicine Hat. The report of James Anderson, engineer for the work, has been laid before the company, and it is understood that as an experiment 300,000 acres of the 3,000,000 barren acres will be put under irrigation.—Building permits have been granted as follows. H. Winer, two-storey house, 85 St. Familee st., cost \$1,000 (Bernard & Paris, architects); Dame J. Cornier, three-storey house, Laval ave., cost \$4,330 (C. A.

Reeves, architect); A. Perrault, three-storey house and store, cost \$4,000 (J. Karch, architect), B. Charest, house and store, 290 Laurier ave., cost \$1,000 (Perrault & Lesage, architects), M. Kenny, three storey house, Dorchester street, cost \$2,500 (A. Chenevest & Cie, contractors); Wm. Rafferty, one and a half storey house and factory, Valle si., cost \$7,000 (H. A. James, architect); W. Boivin, dwelling, 520 St. Paul street, cost \$5,000 (Z. Resther, architect); Rev. Sers. Grises, house and two stores, St. Jacques st., cost \$2,500 (Jos. Venne, architect); F. Dansereau, three three-storey dwellings, Dorchester street, cost \$4,500 (J. B. Montbriant, architect); R. Dobbie, house on Paris street, cost \$2,000 (Isaac Collins, contractor).

TORONTO, ONT. — Tenders are wanted at Room 1,147 Yonge street, for erection of brick dwelling.— The question of erecting a Presbyterian church on the island was considered at a session of the Toronto Presbytery last week.—The Toronto Suburban Rallway Co. are considering the advisability of extending their road to Cooksville.—At the opening meeting of the Medical Faculty of Toronto University of Tuesday last, the necessity of providing new buildings was pointed out. President Loudon stated that the accommodation in the eastern building and the biological building was inadequate.—It is proposed to construct a macadam roadway on Bredalbane street, from Yonge street to St. Vincent street, at a cost of \$1,800.—The city engineer has recommended the construction of the following local improvements. Brick pavement on Shannon street, from Ossington avenue to Dovercourt road, cost \$6,110; concrete sidewalks or Queen street, south side, Ontario to Parliament, \$1,213; Carlton street, south side, for 400 feet east of Sumach, \$368; King street, north side, Wilson avenue to

Good Roads Machinery Co. (Limited.) JOHN CHALLEN, Manager, HAMILTON, ONT.

"CHAMPION" Rock Crushers, Road Rollers, Road Graders, Road Plows Macadam Spreading Wagons, Street Mud Cleaners, Wheel & Drag Scrapers.

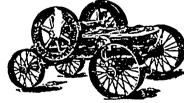
Now introduced in every Province of Canada.

Send for Twentieth Century Catalogue.

McCRECOR & McINITYRE 65 to 73 Pearl Street TORONTO, ONT.

Trolley Pole Brackets; Electric Light Arms; Prison and Jail Cells; Fire Escapes Automatic Fire Shutters and Doors; Iron Sidewalk Doors, Etc.

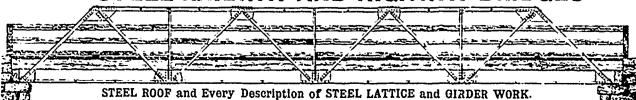
We stock Bar Iron, Bar Steel, Steel Angles, Channels, Etc.



STONE Crushers, Stone Spreading Wagons, Wheelers and Drag Scrapers, Plows, Steam and Horse Rollers, Road Graders, &c.

SAWYEP. & MASSEY COMPANY, Limited - Hamilton, Canada

THE HAMILTON BRIDGE WORKS CO., LIMITED, HAMILTON, CANADA Manufacturers of ... STEEL RAILWAY AND HIGHWAY BRIDGES



STEEL ROOF and Every Description of STEEL LATTICE and GIRDER WORK.

Beams, Channels, Angles and Tees always in Stock.

Beams, Channels, Angles and Tees always in Stock.

Roncesvalles, \$1,108; Wellington street, north side, between Dorset and John streets, \$241.—Building permits have been granted as follows: Garrett & Hil', alterations and brick cellar at 93 and 95 Homewood avenue, cost \$1,000; J. F. Hynes, alterations to old Botsford store, corner Queen and Hackney street, for purposes of a hotel, cost \$6,000; Thomas purposes of a hotel, cost \$6,000; Thomas B. Greening, four-story warehouse on old Upper Canada College grounds, cost \$20,000; W. Marks, pair brick dwellings, 27 and 29 Hamburg avenue, cost \$3,000; Pure Gold Mfg. Co., four-storey pressed brick factory, King street west, near John street, cost \$20,000.—A. P. Westervelt, secretary Provincial Winter Fair, invites tenders up to noon of Thursday next for the alterations and additions to the for the alterations and additions to the Winter Fair Building at Guelph. Plans at Mr. Westervelt's office in the Parlia ment Buildings.—Tenders close at noon to-day (Wednesday), for the supply of 100 toise of stone at the House of Industry, Elm street.—The corner stone of a new church for the congregation of the Church of Christ was laid on Friday last. The site is at the corner of Vaughan road and Helena avenue.-The city has given notice of its intention to construct a macadam roadway on Sinicoe street, from Queen to Caer Howel street, at a cost of \$13,300.

FIRES.

Industrial school at Joliette, Que,, totally destroyed; loss \$30,000.—Ice house of W. & D. Cushing at London, Out.; loss \$3,000, no insurance.—Saw mill at Terra Nova, operated by R. H. Little, of Lisle.—Saw mill and lumber yard of Arthur Paquet in Montreal; loss \$10,000.—Building on Water street, St. Stephen, N. B., owned by J. S. T. Max-

ALWAYS IN STOCK PIG LEAD, PIG TIN AND SOLDER

Syracuse Smelting Works, Montreal, P.Q.

well and Mrs. C. R. Maxwell; loss largely covered by insurance. The opera house block at Truro, N. S., owned I v G. Gunn, was burned on October 1st. The opera house was totally destroyed, also several stores. The loss is about \$50,000.

CONTRACTS AWARDED.

PRESCOTT, ONT .- The town has sold \$6,000 electric light debentures at a bonus of \$105.

WEST LORNE, ONT .- Mr. Drake, late of Alvinston, is about to commence the foundation for his box and basket factory.

GANANOQUE, ONT .- The Ontario Building & Savings Society, of Kingston, have purchased \$10,000 town debentures, at \$10,100.

BERLIN, ONT .- The following tenders were received by the county council for purchase of \$10,000 del entures: W. H. Brouse, Toronto, \$9,725 (accepted); G. A. Stimson & Co., \$9,675; Central

Canada Loan & Savings Co., Toronto, \$9,626.

BROCKVILLE, ONT .- W. C. Fredenburgh has secured the contract for building engine house at Westport for the Brockville and Westport Railway.

VICTORIA, B.C.—The contract for the new Government house has been let to Richard Drake; approximate cost \$50,000.

HULL, QUE.—The council have accepted the tender of the Trump Mfg. Co., of Springfield, Ohio, for a water wheel to run the electric light plant.

MEAFORD, ONT.—The J. F. Pease Furnace Co., of Toronto, have been awarded the contract for an Ideal ventual for the Ideal beat have the contract for the Ideal beat have the Ideal beat hav lator and heater for the public school here.

ST. JOHN, N.B.—Freeze Bros., of this city, have been awarded the contract for galvanized iron work on the Higgins and Senator McSweeney buildings at

Power Pumps **Duplex Pumps** Electric Pumps Artesian Well Pumps Compressed Air Pumps

We are prepared to equip municipal or other water works plants with Pumping Machinery of the latest and most approved designs. We manufacture Steam and Power Pumps of all types, for any duty. Our long experience is behind all our products. They are the standard in Canada for excellent service. Catalogues and specifications on request from The Northey Company, offices and workshops at Toronto, Ont.

We have several excellent second hand pumps in first-class condition for water works services at close prices. Send for Catalogues.

THE COMPANY

Company

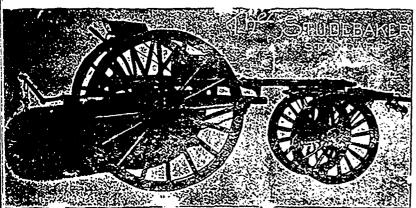
Cimited For Catalogues.

The Canadian Bridge Co., Limited WALKERVILLE, ONT.

MANUFACTURERS OF

RAILWAY AND HIGHWAY BRIDGES

Locomotive Turn Tables, Roofs, Steel Buildings and Structural Iron Work_of_all_descriptions.



Is the Standard atent Improved Street Sweeping Machine of Perfection.

Because no sweeper so effectually does the work he which it is designed as "The Studebaker."
It Sweeps Clean. No sweeper is constructed with the same degree of care and mechanical precision.
It Wents Well. "The Sudebaker" has the smallest possible number of working parts, and has less ing than any other sweeper made. It is free from unnecessary complications. With reasonable care it hot get out of order. Send for complete descriptive catalogue.



Studebaker Sprinkler

PATENT IM ROVED.) Does not clog or get out of order. Greatest width of spray
Can be graded from driver's seat to any volume. We also make an

MPROVED VERTICAL SFRAY

OTTAWA, ONT. — Holbrock Sutherland have been awarded the contract for improvements to the American Bank Note building and for building a store house; estimated cost, \$25,000.

TORONTO. ONT. — The Mackey Stained Glass Co.. of this city, have secured the contract for the stained glass windows for the Presbyterian church at Fordwich; Rev. Mr. Dobson, Pastor.

WINNIPEG, MAN .- The contract for the new Canadian Northern station at St. Boniface has been let to Mayor Senecal, of that place; estimated cost, \$5,000.—Tenders were received as follows for erection of a crematory building, B. Ritchie, \$3,979; William Bryson, \$3,900; S. B. NcComb, \$3,581; R. McElvancy, \$3,553; city engineer, \$3,375. The work will be done by the city engineer.

NIAGARA FALLS, ONT .- It is expected that the contract given to A. C. Douglas by the Canadian Riagara Power Company will take about 18 months to complete. The tunnel will be 2,200 feet long and will be through soft clay shale on the top, which will be required to be timbered, and in limestone on the bottom, and will be lined with 16 inches of brick work throughout exempt at the nortal work throughout except it the portal, where the work will be of limestone and granite masonry.

REAL ESTATE TRANSFERS.

The following recent transfers of property in Toronto have been registered:
Michael Ryan to Edward Hughes, 90 x 150 ft. in rear of east side of Jones avenue, assessed at \$34.

Imperial Loan Co. 40 D. M. Macdonald, 50 x 178.7 north side Woodlawn avenue, being lot 41, plan 669, assessed at \$1,000.

\$1,000.

John J. Walsh to Louisa Weismiller, 25x100, rear of Hinley street, being southerly part lot 1, plan 1,128, assessed

TOWNSHIP DEBENTURES WANTED

Highest Market Prices paid for Township and other Bonds by

The Central Canada Loan & Saving Co'y Cor. King & Victoria Sts. Toronto.

A.E.AMES & CO.

BANKERS. 18 King Street Bast, TORONTO.

Buy and Sell GOVERNMENT, RAILROAD and MUNICIPAL SECURITIES.

M. BEATTY & SONS

WELLAND, ONT.

Dredges, Ditchers, Derricks and Steam Shovels

of various styles and sizes to suit any work.

Submarine Rock Drilling Machinery, Hoisting Engines, Suspension Cableways, Horse-Power Hoisters, Gang Stone Saws, Centrifugal Pumps for Water, Sand and Geld Mining, and other Contractors' Plant.

John J. Walsh to trannah M. Richards, 25x100, rear of Henley street, s.s., being southerly part lot 2, plan 1,128, assessed at Sigo.

Emerson Coatsworth to Asynath King, 17X130 north side Lake front, east of Woodbine avenue, being part lot 49, plan 198E; assessed at \$1.

O. B. Macklam to V. Robins, 35x143.9, east side Dunbar road, assessed at \$1,225.

Toronto General Trusts Co. to Wm. Reeve, 21.6x132, east side Ontario st., being part lots 11 and 12, block 5, plan 198, assessed at \$1,650; total assessment, \$2,490.

Thomas Ward to Alex. R. Auld, 232 x118, south side South Drive, being lot 3, plan 39E, assessed at \$3,750.

Rev. Robert Cade to Joseph T. V. May, 33x146, east side Delaware avenue, being parts lots 9 and 10, block O, plan 328, assessed at \$330.

Thomas Boland to John Boland, 88 x 172, south side Paton road, being lot 32, plan 392, assessed at \$440.

George Burnfield to Agnes Macfarlane, 85x129, east side Indian road, being parts lots 3 and 4, block A, plan 772, assessed at \$340.

Robert A. Stevenson to York Councy Loan & Savings Co., 45x125 west side Roncesvalles avenue, being block E, plan 729, assessed at \$450.

Canada Landed & National Investment Co. to Walmer road Baptist church, 50x130, east side Christie street, being lots 109 and 110, plan 500, assessed at \$300.

Protestant Orphans Home to Andrew Little, 24.2x100 west side Portland street, being part lot 11, section C, military reserve, assessed at \$735; twenty-one year lease at \$60 per year.

Central Canada Loan & Savings Company to James J. Foy, 33.8x120, north

Paying Granite

Granito Sets for Street Pa (. — CURBING cut to any shape ordered. — ... Rich Colors for Building and Monumental Purposes.

Quarries, St. Phillipe d'Argenteuil, P. Q.

Address all communications to

JOS. BRUNET - COTE DES NEIGES. MONTREAL



"GERMANIA" BRAND

_HIGHEST CLASS PORTLAND CEMENT

McGILL UNIVERSITY TESTS, 1898: Fineness:—residue on 100 sieve, 4.45%. Tensile strength: neat: 7 days, 629 lb.

-OF ALL FIRST CLASS DEALERS-



"HEIDELBERG" Brand

(formerly "Schifferdecker")

Highest Class Portland Cement.

Very finely ground. Output 1900-one million barrels. Used extensively in construction of the Chaudiere Dam.

. . . OF ALL FIRST-CLASS DEALERS

Cement Thorn "LEHIGH" PORTLAND CEMENT

Capacity, 4,000 Barrels every day in the year.

For Sidewalks and all other work requiring the highest quality Portland Cement. Used by the U.S. Government and the largest contractors and users of Portland
Cements in the United States.

THORN CEMENT CO., 112-118 Church Street, BUFFALO, N.Y.

The KERR ENGINE COMPANY, Limited



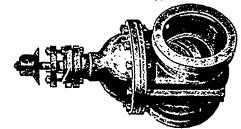
We Manufacture-

WATERWORKS PUMPS

Hydrants and Water Gates

Write for Quotations.

- 🛵 ONTARIO WALKERVILLE,



side Arthur street, being lot 42, plan 748, assessed at \$606.

Henry S. Mara to Eleanor Nash, 25x 142, east side Lansdowne avenue, being part lot 28, plan 525, assessed at \$2.

John A. Walker to Thomas Urquhart, 30x140, west side St. Clatens avenue, being part of lot 23, plan 588, assessed at

Esther A. Drummond, to Thomas Urquhart, 33.8x134, east side St. Clarence avenue, being part lot 22, plan 152, assessed at \$210.

Wm. II. Draper to Wm. II. Ashworth, 21.4x127 west side Brunswick avenue, being part lot 206, plan 608, assessed at \$425.

Florence Sadd to Daniel Schwalm, 45x137 west side Ossington avenue, being lot 23, block K, plan 329, assessed at \$720.

Lucy M. Carlaw to Canadian Kodak Co., 51x187, north side of King street, being lot 2, plan 1086, assessed at \$2,250.

Land Security Co. to Jane Denver, 20x120, worth side Hallam street, being part lot 43, plan 861, assessed at \$100.

John H. Mills to Charlotte McWilliams, 270x100 south side Maplewood avenue, being lots 10 to 18, plan 826, block D, assensed at \$198.

Andrew Reddick to Frederick S. Watson, 217x130, south side Bloor street, being part lot 1 and all lots 2 to 6, block A, plan 430, assessed at \$868.

Peter B. Whytock to Wm. C. Norman, 133x80, north side Arthur street, being parts lots 1 and 6, block 11, plan \$399, assembled \$2.500. sessed at \$1.066.

Wm. C. Norman to Douglas Ponton, 48x209, south side of Queen street, as-sessed at \$595; also lands described above; total assessment, \$1,661.

Fred A. Brophy to Samuel B. Herbert, 48x115, west side Pape avenue, being lot 15 and part lot 16, plan 718, assessed at \$432.

PORTABLE...

Gravity Concrete Mixer

The CHEAPEST, SIMPLEST and BEST Machine for mixing concrete ever invented. Machine for mixing concrete ever High Grade Concrete at low cost.

E. F. DARTHELL, AGENT, 180 ST. JAMES ST., MONTRIAL

Town Lighting Acetylene Gas

We make a Specialty of Acetylene Gas for lighting of Towns and Public Buildings. We have already installed a number of town lighting plants, which in every case have proved to be satisfactory, a few of them being: Aurora, Bolton, Chesley, Milverton, Rodney, Selkirk, Severn, Thamesford, Ont., Virden, Man., Birtle, Man., etc.,

For further particulars address . . .

The Acetylene Gas Mid. 60. Limited

LONDON

Lizetta Bedford to Walter Littleford, 50x125, south side Hunter street, being part lot 11, assessed at \$100.

Lizetta Bedford to Benjamin Bedford, 40x120, south side Hunter street, being part lot \$11, assessed at \$80.

Lizetta Bedford to Edward Holliday, 40x125, south side Hunter street, assessed at \$80; and 131x233, in rear of south side of Hunter street, assessed at \$140; total assessment \$220.

Trustees of University of Toronto to Thomas B. Greening, 60x185, north side King street, east of John street, assessed at \$5,400.

STONE AND WOOD FOR BUILDING.

According to a recen article in the Morning Post, by W. E. Martin, neither porosity no weight, nor resistance to strain nor chemical composition is alone to be considered in judging the durability of a building stone. A series of experiments conducted by the writer has convinced him that the physical condition in which the competent minerals exist in a stone has much to do with its durability, and taken into consideration with the various properties enumerated above it has everything to do with it. The ring of a stone under a chisel struck smartly with a heavy mallet is a good index to its weathering properties, for it tells of the physical condition in which the materials exist in the stone; and an intelligent workman being consequently in an unique position to decide on the goodness or badness of any stone which may pass under his hands, he should be relied on in this matter by whoever takes an interest in erecting a durable building.

Less, he remarks, is known of the structure and properties of timber than of any other material which passes through the builder's hands. This ignorance is frequently shared by the architect, who is apparently indifferent as to whether the wood used under his superintendence is likely to last a reasonable time or perish by premature decay. When about the beginning of the sixteenth century the use of oak was gradually being abandoned in this country, hewn pine logs, cut from large trees grown in provinces bordering on the Baltic, were imported to replace the home-grown timber. This has since completely superseded oak in all our public and private buildings, but when it was

first introduced great prejudice existed against its use, for workmen could not be made to understand that a roof of it would answer the purpose nearly as well as oak and be much cheaper. True, now that the tide of public opinion has set the other way no one thinks of using oak, except occasionally in churches, any rubbish shipped from Sweden, Russia or Canada being good enough for the jerry-built structures found in all our towns.

To gauge the change in this respect one has only to try to realize what the difference is between a piece of "heart of oak" and an "inferior fifth" quality of Swedish deal, a by no means uncommon class of building timber in England at present. Soon after the removal of the timber duty (in 1866) the country was flooded with tin 1960) the country was nooded with foreign-sawn scantlings, chiefly plants, deals and battens, which varied in size from 11 in. by 4 in. to 7 in. by 2½ in., and these largely displaced the logs hitherto these largely displaced the logs intherto sent, for they saved sawing and were consequently cheaper than the same sizes cut from logs here. This flood of foreign-sawn timber continues to increase, while the sizes of scantlings diminish, and the quality of the timber goes from bad to worse. Logs of reasonable size must be cut from well-grown large-size trees, but cut from well-grown large-size trees, but a 4 in, by 2 in, rafter can be and is cut from a scaffold pole nearly all sapwood. On many scantlings, including flooring boards, the bark may be seen where the corners are "waney" and do not hold the full-sized specified, which is another growing fault with these imported pieces. In fact this marked deterioration of foreign-sawn timber is so, well known that it is sawn timber is so well known that it is rigidly excluded from many important works, and such timbers only allowed which are cut from large logs especially selected as free from sap, shakes and large knots.

JOHN GALT, C.E.&M.E.

MRN CAN SOC C.E. AND C.E.A. ETC. (Late City Engineer of Ottawa and Chief Engineer of the Water Works Dept.)

CONSULTING ENGINEER and EXPERT

NATIONAL TRUST BUILDING, 2. Ki g Street E., TORONTO.

Specialties-Water Supply and Sewerage.

W. G. McNeill Thompson CONSULTING ENGINEÉR

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

Examination of Works, Reports, Water Power Development, &c., &c.

ST. CATHARINES, ONTARIO

The Canadian Portland Cement Company, Lmited

. Manufacture "RATHBUN'S STAR" "BEAVER" "ENSIGN "ENSIGN"

Strathcona, Ont.; Marlbank, Ont.

CAPACITY 500,000 Barrels per Annum

-For Prices, write, wire, 'phone or call on our Sales Agents:

THE RATHBUN COMPANY
310-312 Front Street West
TORONTO, ONT.
Telephone Main 1379.

St. Lawrence Portland Cement Co. 2664 Notre Dame Street West Montrelal, Que. Telephone Main 3987.

PORTLAND CEMENT

Samson Brand

Magnet Brand

MADE AT SHALLOW LAKE, ONTARIO

Onr celebrated SAMSON BRAND has been before the public for many years, and has made hosts of friend-among Contractors and Municipal Corporations until it has become one of the leading Cements on the market to day, being excelled by none. This year we have decided to place the MAGNET on the market, and respectfully ask consumers to give it a trial. It will, we think, do its own advertising.

Correspondence invited. . . . GEO. S. KILBOURN, Secretary-Treasurer.

WORKS: Shallow Lake, Ont.

HEAD OFFICE: Owen Sound, Ont

as Your Town a Tower Clock?

IF NOT. WHY NOT?

.. Write us for Estimates..

We are always pleased to quote prices and supply all information necessary for installing

Tower Clocks and Bells Electric Time Systems operated from Tower Clocks Watchmen's Electric Time Registering Systems

We beg to refer to a few of the following places where we have installed Tower Clocks, all of which are considered correct standards of time.

4.	44	•	-	-	TORONTO, ONT. HAMILTON, " TRENTON, "	CITY HALL BRANTFORD, ONT. " " ST. THOMAS, " TOWN HALL GALT, ONT. " " PETROLIA, ONT.
	• • •	-	•	•	STRATFORD, " INGERSOLL. "	PARLIAMENT BLDGS OTTAWA, ONT. WEST POINT BARRACKS VICTORIA, B. C.
**					LIVERPOOL, N. S.	TELEGRAM BUILDING - TORONTO, ONT

In connection with the Evening Telegram clock, there are twelve electric clocks running correctly since they were installed in November, 1899.

Address all Communications to . . .

THE J. E. ELLIS CO., Limited,

Phone Main 1179.

3 King Street East, Toronto, Ont.

Detach this portion of sheet and return to

ESTABLISHED 1836.

The J. E. Ellis Company, Limited,

Phone Main 1179.

3 King Street East, Toronto, Ont.

Manufacturers of Tower Clocks, and Contractors for the Installation of Electric Time Systems and Office Regulators.

Kind of clock—time or strike	٠.
Number of dials	
Are dials to be illuminated?	
Diameter of dials inside moulding	
Square of tower from dial to dial inside	٠.
Are the dials above or below the clock floor?	٠.
How far from centre of dials to clock floor?	
Is there a bell?—if so, give weight	
Will a bell be required—if so, of what weight?	
Will bell be above or below dials?	
Will bell be above or below clock floor?	
Fall of weights	
Name of building in which clock is to be placed	• •
	• •

Our Optical Department

is in charge of qualified Opticians who are always at your disposal.

If your eyes trouble you a consultation with them will afford you much satisfaction, and for which there is "NO CHARGE."

All the latest and improved patterns of Spectacles and Eye Glasses and Silk and Gold Eye Glass Guards, etc., will be found in this Department.

Our Repairing Department

Watches of the most complicated description receive the careful attention of our staff of skilled artizans.

Watches for repairs by mail are given prompt attention. Estimates given.

Jewelry Repairs promptly and carefully attended to.

Estimates given for special orders, designs prepared, and precious stones reset in the latest styles.

Ladies' Jewelry cleaned without charge.

The J. E. Ellis Company, Limited

3 King Street East, Toronto, Ontario.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

LIS 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

R. E. SPEAKMAN, C.E. A. M. Inst. C. E., 1878.

CONSULTING ENGINEER

Waterworks, Sewerage and Sevage Disposal.
Municipal Improvements.
Granolithic Pavements.
Electric Light Plants.
Drainage and Irrigation of Land.
Coal Handling Plant and Machinery.
Plant, Specifications and Estimates.
Construction and Valuations.

Canada Life Building - TORONTO

RODERICK J. PARKE M. American Institute E. E.

CONSULTING ENGINEER Design and Superintendence of "Electric Railroads, Steam and Hydraulic Plants, Long Distance Power Transmissions, Municipal Electric Lighting Systems, Welding and Electrolytic Processes.

Eximates Valuations "sis Reports for Financial Institutions 409-410 Temple Building, TORONTO, CANADA Long Distance Telephone 8047.

Wm. Mahlon Davis

Graduate R. M. College.
M. Can. Soc. C. E. Ont Land Surveyor.

CONSULTING ENGINEER

ERLIN, ONT.

Vaterworks, Sewerage, Sewage Disposal, Drainage under The Municipal Act, Roadways.

Fartificial STONE

SIDEWALKS A SPECIALTY

CORPORATIONS Will do well to consider our work and prices before letting contracts

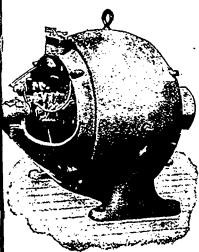
the Silica Barutic Stone Gompanu of Ontarlo, Limited.

VALTER MILLS, General Manager.

Head office: INGERSOLL, ONT.

IS THE

to make arrangements for light during the winter



Send for Bulletin No. 819.

ANADIAN ENERAL LECTRIC

Head Office: Toronto, Ont. Montreal Halifax Winnipeg Vancouver

Rossland Nelson

THE PHŒNIX BRIDGE & IRON WORKS

MANUFACTURERS OF STAY BOLTS AND ALL KINDS OF RIVETS

STEEL AND IRON STRUCTURAL AND ARCHITECTURAL WORK 29 to 49 McQIII Street

Beams, Channels, Angles and Tees always in stock.

F.O. Box 898. Prices on Application. MONTREAL

Dominion Bridge Co., Lta

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

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

Toronto Agent: GEO. B. EVANS, 38 Canada Life Bldg., TORONTO, ONT

..Manufactured at.. NIEL ON RUPELL

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

TO BE HAD FROM ALL CANADIAN DEALERS

C. I. de Sola, Manager in Canada : 180 St. James Street, MONTRB/L

BRIDGES. STEEL CONSTRUCTION AND CASTINGS

and Iron of every description, Shafting, Railway Supplies, Steel Engineers and Contractors.

Cement and Concrete Work. Sidewalk Lights.

CANADA SUPPLY CO., -Express Block, -WINDSOR, ONT.

HIGH GRADE GERMAN BRANDS FOR GRANOLITHIC AND ARTIFICIAL STONE SIDEWALKS.

Best English Cements. Best Beigian Cements Sewer Pipes,

Culvert Pipes, &c.

W. McHALLY & CO., Montreal

MONTREAL

SEWER PIPES. CHIMNEY TOPS,

> VENT LININGS. FLUE COVERS,

FIRE BRICKS, FIRE CLAY, WHITING.



PORTLAND CEMENTS.

HIGH GRADE ENGLISH B. S. & Co. "ANCHOR, ALSO OTHER BRANDS, PLASTER OF PARIS Borax.

FIRE CLAY.

CANADIAN SEWER PIPE



Sewers

CULVERTS

AND WATER PIPES.

· Brick Sowers

Writ for Discount OLKCKOL

DEPARTMENT

FRENCH PRACTICE IN THE MANU-FACTURE OF CAST-IRON PIPES.

Continued from last week.

The pattern of socket mostly adopted by engineers on the Continent and abroad is similar to that used by the Post Office authorities in London for cable pipes, and admits of a straight pipe being set at an angle of 1 in 24 without allowing the pressure of water to come in contact with the caulking material, as the spigot even at this angle, sits tightly on the seating of socket. As it is seldom that a line of pipes is laid perfectly straight, and difficulties invariably arise in making and joints at all angles and curves, the advantage of employing the socket and spigot above reperred to will be readily appreciated. The greater lengths of pipes used on the Continent also affects a saving in the jointing, owing to the reduction in the number of joints. The risk of leakage is also reduced for the same reason.

Providence seems to have specially favored France in providing her with the finest sand for foundry purposes, large quantities of which are imported into Great Britain. The fine skin seen on French pipes is attributable not only to the careful mixing of the pig-iron, but also to the quality of sand in which they are cast.

The standard lengths of cast-iron pipes in use on the Continent are, as has already been stated, longer than those adopted in this country. The following table gives a comparison between the French and English stand ards . -

FRENCH PIPES.

115 m. and 2 in. to lay 2 metres 50 (Sft. 2 in.) 2½ in. to S in. " 3 " (9 ft. 10½ in.) 9 in. and upwards" 4 " (13 ft. 2 in.) BRITISH PIPES.

2 in. to lay 6 ft. 0 in. 214 in. to 15 in. " 9 ft. 0 in. 12 in. and upwards " 12 ft. 0 in.

The saving in the cost of laying secured by the longer lengths total supvery considerably, when the reductions in jointing material, weight of sockets, weight of lead and iron, and in nen's time are taken into

The weights of French pipes are about the same as Eoglish vertically cast, but owing to the quality of metal used the Frenca founders claus to be able to work a lighter specification under similar conditions as regards pressure.

consideration.

DEBENTURES

Municipalities contemplating the issue of Debentures will find it to their advantage to communicate with

G. A. STIMSON & CO. Investment Dealers

The specification adopted by the General Post Office, London, for cable pipes is largely used by French pipe-founders in supplying other European towns, South America, Japan and the East. It is also to be observed that the smaller diameters of pipes are not usually made in this country, and therefore such orders must be given to continental firms.

The coating for pipes generally used in France is Dr. Angus Smith's process, the pipe being reheated and lowered into a hot bath of solution, as in this country. The ordinary test is generally 26 atmospheres, although this is sometimes increased to 800 feet head of water in special cases.

Ever since discoveries in metallurgy permitted of the manufacture of cast-iron pipes this metal has been used for the distribution of water under pressure to the exclusion of nearly every other, and owing to the convenience and cheapness of easting pipes to any required shape and length and the natural resistance of east-iron to oxidizaiton, its supremacy for the purpose is practically undisputed. At the same time, the development of public water service and the increases of volumes and pressures have created new conditions which have revealed certain deficiencies in cast-iron as a material for the manufacture of water mains. For small-diameter pipes cast-iron answers perfectly well, and is adaptable to all contingencies; but as the

diameter and pressure are increased difficulties arise in connection with the transporting of such heavy pipes, and there is a natural disposition to reduce the thick. ness as much as possible, with a consequent sacrifice of security. This is the more serious in view of the fact that with pipes of large diameters a shock, which may be quite immaterial in the case or small-diameter pipes, attains with a larger volume of water a tremendous intensity, and east-iron, although well adapted to resist regular and progressive pressure, is totally incapable of resisting even comparatively slight press ires if they occur in the form of sudden and instantaneous sho 'ts.

It is to remedy these difficulties, and to give to cast-iron pipes a greater resistance against such shocks, that M. Jacquemart has introduced the system of winding steel wire, under pressure, round the extremities of the pipes, and in grooves cast in the body of the pipes.

(To be continued.)

Mrs. Joseph Galarneau has registered proprietress of the business of Joseph Galarneau, plumber, Montreal.

Lyons Electric Co - Brantford, Ont. Contractors, Specialist: General Supplies. Close Figures en High Class Work.

RTLAND



GRADE HIGHEST

SOLE AGENTS-

Bellhouse, Dillon & Co.

30 St. Francois Xavier Street

MONTREAL

BELLHOUSE, DILLON & CO., 50 St Franceis Navier to, Montreul Sele Agents for the Compagnie Generale des Asphaltes de France (Rock Asphalt.)

NORTH'S "CONDOR" BRAND AWARDED FIRST PRIZE AND GOLD MEDAL AT THE ANTWERP EXHIBITION



PORTLAND CEMEN

Sewer Pipes Fire Bricks

Fire Clay

ALEX. BREMNER

50 Bleury Street, MONTREAL

MUNICIPAL DEBENTURES BOUGHT

ÆMILIUS JARVIS & CO. (Toronto Stock Brchange) 19-21 King St. West, TORONTO, Only

Ganada Foundry Gompany, Limited,

Engineers, Founders and Machinists.

STRUCTURAL STEEL AND IRON WORK

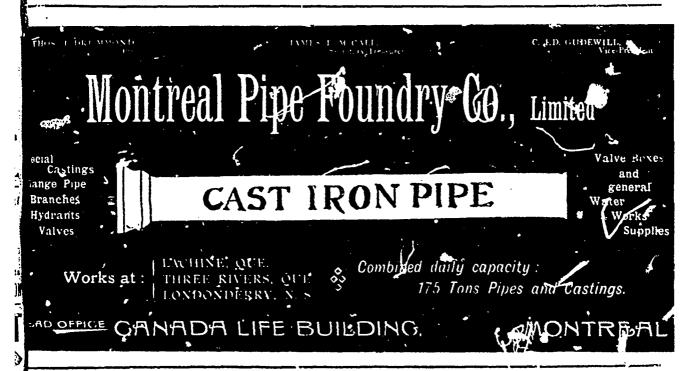
BEAMS, CHANNELS, ANGLES AND PLATES ALWAYS IN STOCK.

CAS AND WATERWORKS SUPPLIES

Cast Iron Gas and Water Pipe, Valves, Hydrants, Valve Boxes, and Special Castings of Every Description

OFFICE AND WORKS:

35 BERKLEY STREET, TORONTO



MEN. GARTSHORR, President. J. G. ALLAN, Secretary and Treasurer. Jas. Thomson, Vice-President and General Manager

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

_

Manufacturer of:::

Flexible and Flange Pipe, special Castings and al kinds of Waterworks Supplies.



3 inches to 60 inches diameter.

For Water, Gas, Culvert and Sewer

TITO ITOT TIKERY

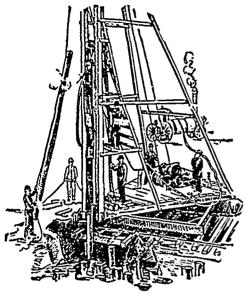
In 5 gal.
Per gal.
Fer gal.
In Keal.
Ice gal.
Fer gal.

- CONTRACTOR

Exterior weating body... \$2 \cdot \c

CREDIT VALLEY STONE.

F.O.B. Quarries.



PILE DRIVING

Portable Beilers Hoisting Engines **Pumping Machinery** TO LET

Bridge Building, Trestie Work, Whrazes, Dams, Diving Submarine Work and General Contracting.

WM. HOOD & SON 10 Rich mond Sq. MONTREAL

Prices of Building Materials.

PRESSED BRICK, Per M.					
MILLION PREMIEW BRICK AND SEWER FIT	k co.				
P.O.B.	F.0.B.				
Milton, Ont, B					
	\$18 on				
" 7	16 00				
" 3 8 40	14 00				
Buff No. 1	20 00				
7 13 00	18 50				
Brown 10 /10	25.50				
Roman Red 30 00	30 50				
Buff	33 50 40 50				
DIUWII CONTRACTOR AND TO TO TO					
Hard Building	120)				
" Seners 6 50 " Backing 6 00	1100				
•	11 50				
Don' Allry pressed erice works.					
Noc. 2, 2 and Red Pre-sed Bricks	to head office.				
	. 골드성				
No. 2 Brown Pres. 4 Bricks	, <u>6</u> 2,0				
No. 1 Brown Pres. 1 Bricks. Pompeiian Red, Bu. nd Brown Pressed Bricks.	: 7£ 5				
	ž .3				
Porous Terra Cotta Uri ks for maing Vitrifieu Street-Paving Bricks	್ ಲಿಕ್ಕೆ ಸ				
Vitrifier Street-Pasing Bricks	278				
Semi-Vitrified Foundation Bri ks	write onto ilogue				
Common Stock Red and Green Reiche	2 4				
Sewer Bricks	lease write Foronto or catalogue				
Sewer Bricks	25.2				
TORONTO PRESSED BRICK AND TERRA COTT					
F.O.B.					
Milton, Ont. &					
Red No. 1 12 50	18 00				
2, to 50	1640				
Reff No.	14 00				
Buff No. 1 15 00	20 00 18 50				
	25 20				
Roman Red	20 50				
10011	30 50 33 10				
I PONT AREA TO THE STATE OF	40 30				
Hard Hui'ding 650	17 00				
" Sewers 632	13 60				
Back ng	11 20				
Term Cour Seeing Course and Friend	Det 100.				
Sand per far run.	n Soc. to				
Roofing Tiles, \$20.00 net 1,000, \$27.00 Monte	eal.				
REALCVILLE BRICK AND TERRA COTTA	EO.				
F.O.B. 1	.0.B.				
Beamsville M					
Red Peerless Facing	5 0 30				
" Na. 1	- 1				

ADVERTISEMENTS

	INDE	XTO	AD	VERTISEM	IENTS
	Architects. Ontario DirectoryIII	Contractor and Mac	hin ery	Lime. Ontario Lime Associa-	Reflectors Frink, I. P
	Quebec Directory 111 Architectural Scalp-	Rice Lewis & Cemni		Robertson & Co xvi	Rooting Materi
	tors and Carvers. Holbrook & Molling.	Owen Sound Cement Co	111	Legal. Quinn & Morrison II	Metallic Ko fine &
	ton i	The Rathun Wind.or Play	ler Co ix	Martle. tes,	Sash Cond.
	Work. Canada Foundry Co viii	Samson C	Cordage	Holl rook&Mollington i	Works
	Dominion Bridge Co. I	Greezoto Cabot. Samue	Blains	Mail Chutes.	Hen Glass Bloomfield & Son
	Watso , J hn III	Eleva:	ors	" Cutler Mfg Co x i	Horwood & Sone II
	Architects' Supplies Chis Potter iv	Lettch & Tarr Mall ch & C	'o i	Shingle Stains. Calut, Samuel . xiv	Hobbs Hardware Company
?	Bridges.	Miller Bros & Turnbull & R Williams & C	t Toms. 1V ussell ColV	Muithead, Andrew i Ornamental Iron	Mackey Stained Glas
1	Canadian Bridge Company ix inition I idge Works	Embossed :	Houlding	Work. Dennis Wire&Iron Co iv	McKenne's Stained Glass Works The Robert McCaus.
	company 1V	Boynton & C Engra		Toronto F. t. e & Orra- mental I-nn Works, iv	Co. Stained Glass
	Builders' Supplies. Luxfer Prium Co.,	Can. Photo-F		Watso , Jehn III	Shingles and Side
	Limited V Montreal Directory, xvi Ontario Lime Asseria-	Folding P. Springer, O.	artitions.	Montreal Di ectory viii Toronto Directory viii	Roofers Supply Co.
	tionxvi Rob-rtson & Co D xv Rice Lewis & Sou IV	Grilles Railis	and	Prisms. Luxfer Prism Co.,	Boil Pina
	Toronto Directory XVI	Dennis Wire&	iron Co. iv	Limited v Paints & Varnishes	Toronto Foundry Co.
,	Building Stone Dealers.	mentai Iron Watson, Johr	Works, iv	Canada Paint C ix Imperial Var. ish & C.l.r Ca vi	H J amilie 1
	Amherst Red Stone Quarry Co xv Credit Forks Stone Co xv	Gran Brunet, Jos		C-1.r Ca vi Muirhead, Andrew 1	Lunn, Charles
	Rro ie Iar xv Heod & Son xv	Gas and I Fixt		Parquetry Floors Elliott & Son Co iv	Bohool and Chur Furniture Can. Office & School
	Kline Johnxv Pi.ka.u Cxv Robers n & Co. D xv Samuel & San Thes. xv	Bl ck & Boyd Heat		Plate Glass The Consolidated Plate	Familiare Co
	Samuel & San Thes . xv Builders' Hard-	Cana la Radia Clare Bros. &	tor Co. xiii	Glass Co 11 Toronto Plate Glass	Geo. W. Reed & Co.
	reare. Rice Lewis & Son IV	Co	diator Mfg I and ji	Coiv	Falres Jenkins Bres
,	Bricks.	Gurney, Tide Leon d, E. &	dry Co iii in Co. xii i Sons. xi	Montreal Directory. xvi Toronto D: -v xvi	Rob', Mitchell Co Wall Plaster
	Amer'c:n I nameled Brick & Tile Co Peamsville Brick &	Reed & Co.	., A. H., L G23. W. II	Roofera Campbell & Gilday xvi	Albert Mfg. Co Bradshaw, W A Windsor Plaster Co.
	Terra Cotta Co xiii Don Valley Brick	Robb Engin Company Smart Mfg C	x	Dathie & Sons, G xvi Douglas B xvi	Wire Lathing
'	Works	Interior D	ecoration	Forbes Poofing Co. xvi Nicholson & C., D xvi Rennie & S.n. Rebt xvi	The B. Greening Wir
	Slate	Elliott & Sen Landscape	Archi-	Ormsby & Co. A B. 1 Rin ham George. xvi Stewart & Co. W.T. xvi	Metallic Poofing Co Window Cord.
	Steinberg r, H ndry Co iv	fec Frederick G	z Ccdd 111	Williams & Co., H xvi	Samson Cordage Works
•		Peamsville.		SLATE.	Toronto. Kontre
	Buff Pecrless	.8.	75 10 23 50	Rochez (V square).	17 50 2
	No. 2 Moulded an i Ornamental B Roman Red (Size 22 x 4 x 13) " ruft " Brewn "	ic (from \$3 to	\$10 Per C		Toronto. Montre
	Vitrified Pavin, Brick No. 7	. 33 00 . 38 00		n purple	8 sc 10
	Sewer	15 co	23 50 20 50 12 00	olack Tena Cotta Ti.e per sq.,	750 (
	Roofing Tile	22 60	26 00	Ott amental Diver State No	os k gados
	8T O.	IE.	•	Portland Cements -	LIME, etc.
		Toronto.	Montreal	"Josson "Brand Portla	ind. 305 325 270
	t'omann Rubble, per tosse, delivered	12 00	£1 00	Alsen's, (German) "Karlstadt" (German) English, artificial, per	3 00 3 15 2 (0 2 85 3 05 2 55 2 bbl 2 85 3 00 3 25 3
	delivered	14 00	18 00	Rathbun's Star, per bbl.	2 5 ° 5
	Foundation Blocks, per c. ft. Granite (Stanstead) Ashler, 6 in to ta in., rise oun., per ft.	30	50 25	Ensign, "	# 10 % 50 190 # 30 1 50
	Amherst Red Sandstone, Amherst N.S., per cub. ft. Sackwille N.B., brownstone	100	75	Roman **	2 20 1
	Masillon. Stanstead granite paving blocks, 8 in. t - 12 in. x6 in.	30 00	75	Parian Keene Sapertine "Whi Keene Coarse "Whit Facvel's Belgian, 396 !! Levie Bros	les" 1 00 12 Cu 9 c6 12 les" 18 00 3 50 3 50 bbl.
	blocks, 8 in. t- 12 in.x6 in. 44% in. per M. Granite curbing stone, 6 in.x		50 00	Levie Bros., Fire Bricks, Newcastle, pe	
	B etrue e Olive Freest ne.	85	79	ume, 100 lbs., Grey	30
	Olive Sandstone (Indiantown, Brown " (Sackville, N	N IL 1 R5	70 70	Platter, Chianea, N. B	200
	Most red sandstone, per cu. f Black Parture buff stone, per Nova Scotia blue grey, per co	cu, ft,	\$0 65 80 65	Hair, Plasterers', per bag	80 100 LAL VARNISHES.
		F.0.B.	Halifax.	THE IMPERIAL VARNISH	AND SOLOR CO, LINITED
	Dimension stock granite for ing purposes, per cubic foot Do., for polishing purposes, u	build-	\$04.	(esign	er grade)
	tons weight, per cubic foci. Paving sets, per thousand blo		1 00 60 00	(Cans free.	gal can gal, can gal, can gal, feel, car
					20 20 2 K 2 K 2 K 2 K 2 K 2 K 2 K 2 K 2