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Vol. 3.

Toronto and Montreal, Canada, November 26, 1892.

No. 42

THE CANADIAN CONTRACT RECORD,

PUBLISHED EVERY SATURDAY
As an Intermediate Edition of the "Canadian Architect
and Builder."

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

C. H. MORTIMER, Publisher,

CONFEDERATION LIFE BUILDING, TORONTO. Telephone 2362.

64 Temple Building.
Bell Telephone 2299. Montreal.

Information solicited from any part of the Dominion regarding contracts open to fender.
Absertising RATES ON APPLICATION.

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

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

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



NOTICE TO CONTRACTORS.

TENDERS FOR ANNUAL SUPPLIES.

Tenders will be received by registered post, Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on TUESDAY, NOVEMBER 29TH, 1892, for the following supplies for the year ending December 31st, 1893:

Sewer Pine, Iron work, Lumber, Crossing Stone, Lake Stone, Horse Feed, etc., Pressed Spikes, Wire Nails, Gravel, Loam, Sand.

Specifications and forms of tender may be obtained on and after November 22, 1892, at the

tained on and after November 22, 1892, at the office of the City Engineer.

A deposit in the form of a marked cheque, payable to the order of the City Freasurer, for the sum of 5 per cent, on the value of the work tendered for under \$1,000, and 25 per cent for the value of the work tendered for over that amount, must accompany each and every tender, otherwise it will not be entertained. All tenders must bear the bona fide signatures of the contractor and his surelises (see specifications), or they will be ruled out as informal.

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

cept the lowest or any tender.

JOHN SHAW, Chairman Committee on Works. Committee Room, Toronto, Nov. 16, 1892.

SEALED TENDERS

Will be received by the Corporation of the County of Bruce, and Town of Walkerton, at the County Clerk's office, Walkerton, until noon on WEDNESDAY, THE 30TH DAY OF NOVEMBER, for the

Construction of a Sewer trom the corner of Jackson street westerly along Durham street, thence to the Saugeen River, a distance of about two thousand one hundred feet.

Plans and specifications may be seen at the office of the undersigned. The joint committee appointed by the above corporations do not bind themselves to accept the lowest or any tender.

GEORGE GOULD, Clerk, County Bruce,

Walkerton, Nov. 22nd, 1802.

PEMBROKE WATER WORKS.

Notice to Contractors.

Scaled Tenders will be received by the Chairman of the Waterworks Committee, Pembroke, until 6 p.m. on FRIDAY, DECEMBER 9711 1892. for the construction of a System of Water Works for the Town of Pembroke, as follows—

A—Intake pipe and well.

B—Buildings and Chimney.

C—Pumping machinery and boilers,

D—Distribution system.

E—Water tower.

"Bulk Tenders" will also be considered.

Plans, specifications contracts, etc., can be seen and forms of tender obtained at the Town Clerk's office, Pembroke, or at the office of the Chief Engineer, on and after 25th instant.

WILLIS CHIPMAN,
Chief Engineer, 103 Bay St., Toronto.
WM. O'MEARA,
Chairman W. W. Committee, Pembroke.

Dated November 18th, 1802.



NOTICE TO CONTRACTORS.

Tenders will be received by registered post, addressed to the Cay Engineer, Toronto, up to it o'clock a.m. on 'TUENDAY, NOVEMBER 29, for the construction of the following work

A SEWER

On Bathurst street, from the C. P. Railway crossing to the Convalescent Home.

Specifications and forms of tender may be obtained on and after November 23, at the office of the City Engineer,

A deposit in the form of a marked cheque. payable to the order of the Cry I reasurer, for the sum of 5 per cent, on the value of the work ten-dered for under \$1.000, and 2 per cent for the value of the work tendered for over that amount, must accompany each and every tender, otherwise it will not be entertained.

All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications), or they will be ruled out as informal. The committee do not bind themselves to accept

lowest or any tender.

JOHN SHAW, Chairman of Committee on Works. Committee Room, Toronto, Nov. 21, 1892.

CONTRACTS OPEN.

PRMBROKE, ONT .- Mr. McAllister is preparing to erect an elevator in the spring.

PRESCOTT. ONT. - Citizens are still discussing the question of the best site for the new high school building.

MAGOG, OUE .- The Dominion Cotton Mills Company are making preparations for the erec tion of a new warehouse.

KNOWLTON, QUR, - Messrs. A. W. Pettes and E. Mills are arranging to put in an electric light plant here as a private enterprise.

RAT PORTAGE, ONT .- The Athletic Building Company of Rat Portage, Limited, has been incorporated, with a capital stock of \$200,000

St. Albans, Que.-The bill authorizing the building of a new county jail has been signed by Gov. Fuller. It appropriates \$20,000 for the pur-

HESPRIER, ONT .- A. J. Brewster, I reasurer, will receive tenders until Saturday, the 3rd of December, for the purchase of \$10,500 worth of debentures.

AMHERSTBURG, ONT .- A pork packing estab lishment on an extensive scale is likely to be es tablished here. Mr. D. Marlatt is the originator of the scheme.

NEW WESTMINSTER, B. C.-Hunt & Castello are about to commence the erection of a canning establishment at Steveston, which will have a capacity of 15,000 cases.

OWEN SOUND, ONT .- I. C. Forster, architect, has prepared plans for a residence for R. Doyle. jr., to be erected at Masonville. It will be of brick, with cut stone sills, and heated by hot air. Estimated cost, \$2 600.

BROCKVILLE, ONT. - At a rec. ' meeting of the Board of Health a motion was passed recommending the Council to have sewers constructed at once on Gordon street, between Pearl and lames streets, and on Perth street, between Brock and Abbott streets.

COBOURG, ONT .- J. D. Hayden, Chairman Fire and Light Committee, will receive tenders until 7 p. m. on Monday, December 6th, for street lighting for the town, also for an electric light plant with a capacity of 30 arc lamps, 2,000 candle power

TORONTO JUNCTION, ON 1. The Wrought Iron Range Company, of St. Louis, Mo., have leased the premises of the Barnum Wire and Iron Works in this town, and will fit up the buildings with the latest improved machinery for the manufacture of stoves, ranges, etc.

WINDSOR, ONT .- Daniel Scotten, of Detroit, is negotiating for the purchase of a block of property on Quelette avenue on which to creet an hotel,-Mr. McLean, architect of this place, is preparing plans for an hotel to be erected at the Sandwich Mineral Springs - It will contain about fitteen bedrooms.

STRATFORD, UNT .- The City Council has appointed a committee to confer with a committee of the County Council with a view to securing the erection of a house of refuge in this county.-A special meeting of the City Council has been called to consider the question of a more efficient sewerage system for the city.

BELLEVILLE, ONT.-Mr. W. J. Smith. of Toronto, will be asked to submit a plan for a system of sewerage for the town. The expenditure for this work is estimated at \$150,000 and the ratepayers will be asked to note on a by-law at the coming municipal elections to authorize the issue of debentures to raise the sum.

VICTORIA, B. C .- Mr. R. D. Young, real esstate dealer, has recently been perfecting the details of a plan for improving a considerable amount of property in Victoria West. The scheme includes the erection at once of nine houses. The plans and specifications will be prepared at once and the work completed as soon as possible.

HAMILTON, ONT .- The young business men of this city have decided to organize a new club, and should they be unable to secure suitable premises, will erect a club house of their own -A building permit has been grunted to Brown & McBeth for a brick dwelling at the northwest corner of Aberdeen avenue and Hess street, to cost \$2,400.

HALIPAN, N. S.-The City Council are at present considering the paving and improving of Water street, from the Ordinance to Morris street, the material to be used to be grante blocks. The City Engineer has recommended that before the work be proceeded with a sewer should be constructed along the entire street, at a cost of \$30,-000. A quantity of cement will also be required for this work. -Mr Thos. Fuller, chief architect, Department of Public Works, is preparing plans for the proposed new drill half. The cost will be about \$10,000

WINNIPEG, MAN. - The ratepayers will be asked to provide the sum of \$119,000 for the erection of two new bridges, one across the Assinibome river at Main street and another across the Red River in the north end of the city. - The City Council has decided to advertise for tenders for the supply of material necessary for waterworks construction for 1893, the tenders to be in by February 1st. - Mr. H. A Massey, of Toronto, has donated the sum of \$20,000 towards the building fund of the new Wesley College to be erected in this city.

KINGSTON, ONT.-Mr. H. A. Culvin, M. P., will build a new river tug at Garden Island this winter.-W. Newlands, architect, invites tenders until 6 p. m. to-day (Saturday) for making cer rain alterations to the stone building on Princess street, adjoining the City Hotel, for Mrs. Wm Kirk .- in a recent address to the school children Archbishop Cleary pointed out the necessity of a targe and commodious building in connection with the convent to be used as a boarding school for young laties. He also hoped to secure the erection of a high school or college for complete education of jouths wishing to follow the idential legal, medical, or journalistic professions

MONTREAL, QUE - Mr David Darling has purchased the block of vacant, property forming the corner of St. Catherine. Dorchester and Hallowell streets Cote St. Antonie - The Harbor Commissioners will receive ten fers until 5 p. m. on Monday, 5th December, for the supply of 340,000 feet H. M. of hemlock plank, required during 1893.- The civic deputation waited on the Minister of Public Works last Saturday regardIng the erection of the proposed bridge across the Lachine canal at Wellington street, the estimated cost of which is placed at \$80,000. The Minister has promised that the bridge should be completed before the opening of unvigation next spring, and that a Government engineer would make an examination of the site, consult with the city engineer and report on the whole question at an early date.

OTTAWA. ONT .- It is reported that Messrs. Reed and Hallet have made application to the Nepean health officials for permission to erect a factory to manufacture a fertilizer in which dead carcasses and offal will be largely used - The Minister of Public Works has promised to place a sufficient sum in the estimates to cover the cost of constructing a bridge across the Gatmeau river. - A number of contractors are looking over sections of the Ottawa, Amprior and Parry Sound Railway with a view of tendering for the construction of the road between Eganville and Barry's Bay .- In view of the increased prices asked for ice by the local dealers, the hotelkeepers have resolved to form themselves into a company for protection, and will erect a fine brick ice house.

LONDON, ONT.-Messrs, Moore & Henry, architects, will receive tenders until Wednesday next for plastering the Collegiate Institute. - The London township Board of Health has passed a resolution recommending the township Council to grant a license to Messrs. Ginge, Webb or Barnes to erect and earry on a pork packing establishment in the township. The plans of the proposed packing and slaughter houses have been The buildings will be separate and will cost about \$25,000. The slaughter house will be 40x80 feet and the packing house 80x180 feet, and it is expected that before very long the buildings will be doubled in size. The City Council has passed a by-law authorizing the corporation to borrow the sum of \$60,000 for the purchase of an electric light plant.

VANCOUVER, B. C .- Tenders are asked until the aist of December for the purchase of \$80,000 worth of debentures to be issued by the Maple Ridge Dyking Commissioners. Full particulars may be obtained from A. St. G. Hamersley, solicitor, of this city. - Instructions are to be given immediately to the Dominion Government engineer to prepare plans for a deep water wharf and suitable quarantine buildings for either a station at William Head or Albert Head, whichever may be finally chosen.-Mr. Fripp, architect, recently visited the Vernon and Okanagan district for the purpose of chosing a site and preparing plans for fruit canneries and other buildings to be erected on Lord Aberdeen's estates. Probably only one cannery will be erected for a year or two. The building is to be about 100 feet square and two storeys in height -Mr F. M. Rattenburg, architect has prepared plans for a large brick and stone block to be erected at the corner of Oppenheimer street and Westminster avenue, for a gentleman named Davis. The building will be three storeys high, and will contain stores on the ground floor. - A company will apply for incorporation at the next session of the Legislature for the purpose of erecting furnaces and rolling mills in this province, also for carrying on a general steel and iron, mining, milling and ship-building business.

TORONTO, ONT .- The City Council has approved of the plan recommended by the City Engineer for improving the sanitary condition of Ashbridges' Bay, and tenders will be asked for carrying out the work. The ratepayers will be asked to vote on a by-law to authorize the issue of debentures to provide the necessary funds which are placed at \$116,000.-Mr. Robert Simpson, drygoods merchant, has purchased the property at the south-west corner of Oueen and Yonge streets, on which his present premises stand, and it is expected will make extensive improvements.-It is the intention of the authorities of St. Michael's College to shortly replace the present college bu ldings by new ones to be erected on their property on St. Clarens avenue. -It is the intention of the Imperial Bank to erect a new building, the plans for which have been prepared. The Bank owns the land on which the building now occupied as well as the adjoining Euilding stand, and is delaying action for the purpose of deciding upon the advisability of putting up the

proposed new building on the site of the old one. or procuring a site elsewhere - A largely signed petition has been presented to the Council in favor of submitting a by-law to the rate-payers to establish free public swimming boths. - The City Engineer has reported that the dramage of the Queen street subway is unsatisfactory and recommends that a new sewer be built to connect with the Lisgar street sewer, at a cost of \$2,000,-Mr. E. J. Lennox, architect for the new Court House. has written to the Property Committee of the City Council again urging that tenders be asked for the completion of the work on the new building. -The greater portion of the necessary funds required for the removal of St. Andrew's church to a site near the corner of College street and Spadina avenue has been subscribed, and in all probability the work will be proceeded with in the spring. -Mr. S. F. McKinnon has purchased the block at the south-west corner of Jordan and Melinda streets. - The City Commissioner's scheme for turning the old immigrant sheds into a public abbatoir has been approved by the Property Commattee, and the Council will be asked to provide the necessary funds, which are placed at \$6,000 .-A sub-committee has been appointed to report on a site for a cemetery. Messrs. Strickland & Symons, architects for the proposed Union station, are at present on a tour through the United States in search of information regarding the construction of the new building .- The plans for an additional storey to the city registry office were prepared two years ago by the late W. G. Storm, the cost of execution being estimated at \$10 000 The City Commissioner has approved of the same, and tenders will now be asked for the work -Building permits have been granted as follows -Mrs. A. Belford, Close ave., two det. 2 storey and attic bk. dwellings, 208-10 Cottingham st., cost 50,000, C. Durke, three att. b. f. dwellings, east side Sumach street, s. of Oak st., cost \$4,500, F. J. Phillips, Queen's Park, alterations and mansard roof 52-8 Gerrard st. w., cost \$2,500; M. A. Clancey, 32 Sully st., 2 storey bk. dwelling and store n. c. cor. Grace and Henderson sis cost \$1,800; R. M. Scott, 308 Dovercourt road, det. 2 story and attic bk. dwelling, w. side Tyndall ave., near Springhurst ave., cost \$5,000.

FIRES.

A frame house owned by Andrew Baughart, of Strathroy, and occupied by him as an hotel, was destroyed by fire last week. The loss is placed at \$2,000, most of which is covered by insurance. A house owned by Capt. Macdougall, at 48 Wellington place, Toronto, was almost entirely destroyed by fire on Saturday of last week. The loss, which is said to be about \$7,500, including furniture, is said to be covered by, insurance. - J. Braden's china hall at Woodstock, Ont., was gutted by fire on Monday last. The loss on the building will be about \$1,000.—The residence of Mr. Peter Healy, Grange street, Guelph, has been destroyed by fire.-The Mansion House at St. Catharines, Ont., was damaged by fire to the extent of \$2.000 recently. The building was owned by Mr T. Conlon of Thorold, and was insured for \$3,000,-Mr. Dennis' lumber mill at Grand Bay, near St. John, N. B., was totally destroyed by fire on Tuesday last. The loss is estimated at \$35,000 and the insurance \$20,000.

CONTRACTS AWARDED.

SARNIA, ONT.—The contract for the supply of sewer pipe for the George street sewer has been awarded to A. Lockhart

DARTMOUTH, N. S.—Arch. Await has been given the contract to extend the water pipe line on King street south to Evans' boiler works, and will proceed with the work at once,

TORONTO, ONT.—The City Engineer has recommended that the tender for the iron work for the strengthening of the Queen street bridge be given to the Hamilton Endge Company. Messrs, McCausland & Son have been awarded the contract for stained glass for the new R. C. church at Phelpstown, Ont.—The Hamilton Bridge and Tool Company has been awarded the contract to build a steam pleasure yacht for A. E. Gooder man, of this city. Mr. G. L. Watson, of Glasgow, is the designer. The yacht will be built of steel, 101 feet 8 inches long, 9 feet 2 inches deep, and 16 feet 9 inches beam. It will cost about \$50,000.

THE STAIRCASE.

In the design of this often very picturesque feature, it must be admitted that we owe but little to any examples of antiquity. In temples, staircases of ample size were obviously not required, but there are no instances of an internal staircase of striking effect or dimensions in even any Classical remains. Magnificent flights of steps no doubt occur in exterior architecture, and in Belli's "Description of the Greek Theatres of Crete," as well as in other examples, we see evidence of the existence of double returning flights of stairs, similar to those in frequent use in modern architecture, having each flight enclosed within solid walls, and setting us an example of sound and solid construc tion, well worthy of careful study in the execution of our own public buildings. The newel stair, so characteristic a feature in the plans of a subsequent age, was certainly of purely Greek origin. A perfect exists, in good preservation, among the runed temples at Selimentum. Its dimensions, however, are small, the diameter of the circle which contains it being but 6 feet 4 inches—dimensions which were subsequently greatly exceeded it similar spiral stairs within the monumental columns of ancient Rome. The Domestic architecture of Rome seems to have required little aid from interior stairs; and even in so sumptuous a building as the Colliseum, where many thousands of sper-tators had to be provided with ready means of access to very high levels—a building, too, erected when Roman power and art were in their zenith, expressly to gratify the extravagant love of splendor and display which Characterized the Roman people we find no indication of any fine staircase. Among the buildings which remain to us of the earlier Middle Ages, it is still difficult to point to any notably fine stairs. Highly effective flights, no doubt, occur; striking examples occur at Assisi and at the Cathedral in Lucca, at Assist and at the condition in where flights of stairs 7 or 8 feet wide occur, with marble balustrading, sufficing to show that Mediæval buildficing to show that Mediaval builders were, to some extent, alive to the fine effects attainable by the artistic treatment of this portion of their plan. Still, these examples are of rare occur-rence. It will be difficult to refer to any case in this country of equal importance to that in the cathedral close at Canterbury. The newel stairs, of which so many examples remain, as at Dover Castle and Tamworth Church—the latter presenting an almost singular example of a double spiral star round one newel- were certain. ly the most usual form of stairs in buildings, even of the most inportant character, during the whole Middle Age period, so much so, indeed, that the detached turrets which contained these newel stairs became one among the most prominent features of Domestic architecture throughout Europe during that period. No city contains more remarkable examples than that so rich in scenic effects, viz., Nurem-Wherever this turreted staircase occurs, it always constitutes a pleasing and striking object, imparting an agreeable variety of outline to the architectural composition. As peaceful arts advanced and man ceased to look for security in embattled buildings, the artistic eye of the builder soon perceived the opportunities that were afforded by interior flights of stairs for pleasing and pictorial effects. Nor could be be insensible to the extreme in-convenience of a newel staircase which, whatever its width, can necessarily offer but one place where the treads and risers are of proportions at all convenient to persons ascending or descending. In the quiet times of the later Tudors, staircases in this country began to assume there proper position and character, and their is no part of our old Elizabetuan mansions on which the builders seemed to have dwelt with more pleasure, or on which they were more wont to exercise their fancy, than

the staircase .- Builders Reporer.

TORONTO BUILDERS' EXCHANGE.

The Toronto Builders' Exchange, following the example of the American Exchanges, has resolved upon having an "Exchange Hour" every Saturday morning for the transaction of business by the members.

MUNICIPAL DEPARTMENT.

THE BEST PAVEMENT.

There is only one pavement extant which fulfills all the modern requirements of cities, and this pavement is vitrified brick. Philadelphia has thirty-five miles of brick paving; Lincoln., Neb, over twenty miles of brick paving; Wheeling, W. Va., Charleston, W. Va., and Steubenville, Ohio, each about sixteen miles of brick-paved streets. Galesburg, Ill., has about five miles of brick-paved roadways. There are in the United States almost 300 cities and towns which have vitrified Chicago, Burlington & Quincy freight depot on S. Canal street, just west of Harrison street in this city, there is a brick-paved roadway which has been in use for over two years. Over 4,000 teams a day have passed over this brick-paved roadway, and yet it shows no more wear than would the floor of the ordinary office. Vitrified brick pavements can be laid in the city of Chicago under a guarantee of fifteen years, without requiring the city to expend a single cent for their maintenance. Vitrified brick is the paving material of the future, because roadways paved with vitrified brick are enduring, they are easily cleaned, easily repaired, are perfectly noiseless, are not affected appreciably by moisture, frosts, or fires; the brick fit so closely that there are no interspaces to retain filth and breed diseases.

Brick paying for rolldways costs less than either granite or asphalt, is thoroughly free from dust and requires no repairs, and horses do not slip or fall on brick pavements as they do on asphalt or granite blocks. A city can lay two miles of brick-paved roadways for less than the cost of one mile of granite or asphalt paving. The interest on this money saved between the cost of vitrified brick paving and that of either asphalt or granite will keep a brick-paved roadway perpetually clean and perpetually in perfect repair. A thoroughly virined brick will not absorb moisture, and hence a brick-paved road-way is self-cleaning of ice and snow under sun effects. The use of vitrified brick as a paving material in many of the cities of this country during past seventeen months has led slowly but surely to brick as the most durable of paving materials, because it is the most durable and economical. The use of virified bricks as a paving material for roadways is therefore the trend of the most intelligent sentiment of the times, and the subject is worthy of careful thought by all who believe in permanent street improvements to be made at a low first cost, and to require little or no expenditure for maintenance.-Brick Road-

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

COLEMAN V. CITY OF TORONTO.— R. Boulibee for the plaintiff, appealed from an order of Galt, C. J., in chambers, reversing an order of the master in chambers, allowing plaintiff to examine Dr. Allen, medical health officer of the city of Toronto, the defendants for discovery. The defendants counsel contended that Dr. Allen is not an officer of the defendants, and also that the action, having been tried and Dr. Allen having been examined at the trial, the plaintiff has been afforded the discovery he wants, which will be available to him at the second trial, the jury having disagreed at the first. It appeared that Dr. Allen had made an examination upon the condition of Ashbridge's bay and reported to the Local Board of Health. The plaintiff is suing for an injunction restraining the defendants from keeping Ashbridge's bay in an

MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

unsanitary state, and to compel them to restore it to a proper state and for dam ages. The plaintiff wishes in effect to cross-examine Dr. Allen upon this report and to get him to explain it. The judg-ment of the court was delivered by Armout, C. J., at the conclusion of the trial as follows: What the plaintiff wants here is metely discovery of evidence. Nothing has happened by reason of what Dr. Allen did. If you could show he did something in the course of his duty to cause the injury, he would be examinable. Dr. Allen may be an officer for certain purposes, but not such an officer as the defendants can examine for discovery. We think the appeal cannot succeed. Perhaps Galt, C. J., put it too broadly when he said that Dr. Allen was not an officer of the corporation. except as respects his appointment. So far as what Dr. Allen did in this case was concerned, he was not examinable by the plaintiff for the purpose of discovery; the plaintiff cannot examine him for the purpose of discovering grounds or reasons on which he made his report. That would be trying to find our what evidence the witnesses would give at the trial. view of what it is sought to examine Dr. Allen about, he is not an officer of the defendants. Appeal dismissed with costs.

A high-pressure joint for salt glazed vit-Merrill, manager of the Elsmore Potters Works, of Riverside, Cal. He makes the pipe perfectly straight with abutting ends, and inserts an iron or steel collar 3 ins. broad, 1½ ins. into a recess in each pipe end. Asphaltum prevents rust and this pipe-joint is claimed to have withstood a pressure of 75 lbs. without leaking a drop in a recent test.

Canada Pipe Foundry,

HAMILTON, ONTARIO.

ALEX. GARTSHORE, - Proprietor.

Manufacturer of

CAST IRON WATER, GAS AND SEWER PIPES.

- ALSO -

Special Castinys of every description.

CAPACITY: 50 TONS PER DAY.

In use from Vancouver to Sydney, Cape Breton. Correspondence solicited.



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IOHS BATTIE, ESQ., Thorold

John Battie, Esq., Thorold

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