

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear
within the text. Whenever possible, these have
been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.

Additional comments: /
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured pages/
Pages de couleur
 - Pages damaged/
Pages endommagées
 - Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
 - Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
 - Pages detached/
Pages détachées
 - Showthrough/
Transparence
 - Quality of print varies/
Qualité inégale de l'impression
 - Continuous pagination/
Pagination continue
 - Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
 - Caption of issue/
Titre de départ de la livraison
 - Masthead/
Générique (périodiques) de la livraison

CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL

PUBLIC WORKS • TENDERS •
ADVANCE INFORMATION •
AND MUNICIPAL PROGRESS

EVERY THURSDAY

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

VOL. 8.

MARCH 18, 1897

No. 7.

THE CANADIAN CONTRACT RECORD, PUBLISHED EVERY THURSDAY

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

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

C. H. MORTIMER, Publisher,

CONFEDERATION LIFE BUILDING, TORONTO.
Telephone 2362.

New York Life Insurance Building, Montreal.
Bell Telephone 2199.

Information solicited from any part of the Dominion regarding contracts open to tender.

Advertising Rates on application.

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

CANADIAN CONTRACTORS HAND-BOOK

A new and thoroughly revised edition of the *Canadian Contractor's Hand-Book*, consisting of 150 pages of the most carefully selected material, is now ready, and will be sent post-paid to any address in Canada on receipt of price. This book should be in the hands of every architect, builder and contractor who desires to have readily accessible and properly authenticated information on a wide variety of subjects adapted to his daily requirements.

Price, \$1.50; to subscribers of the CANADIAN ARCHITECT AND BUILDER, \$1.00. Address

C. H. MORTIMER, Publisher,
Confederation Life Building, TORONTO.

Before the streets of London were paved the inhabitants were as great sufferers from periodic fevers as are those of the most unhealthy rural districts in our own country. It has been computed by an eminent authority, Sir Lyon Playfair, that in one county alone in England the pecuniary burden borne by the community in the support of removable causes of disease and death amounted to the annual sum of twenty-five millions of dollars.

CONTRACTS OPEN.

RIDGEVILLE, ONT.—D. G. Stone will erect a residence this spring.

MAPLE LAKE, ONT.—D. Sword proposes erecting a brick residence.

ROBERVAL, QUE.—An electric light company is being organized here.

MARSHVILLE, ONT.—A tenement house will be constructed by John Reid.

NEWTON, ONT.—Attig & Ruhl will shortly commence the erection of a wool-len mill.

BOYLE, ONT.—Peter Beamer has under consideration the erection of a brick dwelling.

TAVISTOCK, ONT.—J. D. Adam has purchased a site on which to erect a new residence.

RENFREW, ONT.—I. E. Pedlow, merchant, of this town, will build a residence this spring.

CALGARY, N. W. T.—By-laws will be submitted to raise funds for constructing new bridges.

ACTON, ONT.—It is again rumored that the erection of a new Baptist church is contemplated.

PERTH, ONT.—Stephen Bennett, Alex. Kippen and R. Brown are each erecting new dwellings.

GALT, ONT.—Plans are being prepared for a business block to be erected for George Bernhardt.

FORT WILLIAM, ONT.—A site has not yet been selected for the new post-office and custom house.

GOLDEN LAKE, ONT.—The saw mill of L. E. Parsons, which was burned recently, will be rebuilt at once.

ESSEX, ONT.—The ratepayers will be asked to grant \$2,000 for improvements to the waterworks system.

ALVINSTON, ONT.—The Presbyterian congregation have decided to build a new church, at a cost of \$6,000.

NEWCASTLE, ONT.—James Troy is preparing plans for buildings for J. H. Phinney and D. Morrison.

BROCKVILLE, ONT.—A large gymnasium will be constructed in connection with the Collegiate Institute.

DURHAM, ONT.—There is a project on foot to form a joint stock company to erect a boot and shoe factory.

ANTIGONISH, N. S.—D. Macdonald, municipal clerk, will receive offers until the 20th inst. for a loan of \$9,000.

AMHERSTBURG, ONT.—The City Council have under consideration the construction of sewers, at a cost of \$11,000.

UTTERSON, ONT.—The Presbyterian congregation have purchased a site and intend building a church in the spring.

FREDERICTON, N. B.—It is probable that a number of asphalt pavements will be constructed during the present year.

LINDSAY, ONT.—W. E. Swain, Box 163, will receive tenders until the 22nd inst.

for the erection of a brick school in Mariposa.

CHATHAM, ONT.—The Council have not yet selected plans for the proposed market building, which is to cost \$8,000.

SMITH'S FALLS, ONT.—It is rumored that plans are being prepared for a large hotel to be erected by Edward Kennedy.

MAGOG, QUE.—A committee appointed to obtain particulars regarding a system of waterworks have presented their report.

KILLARNEY, ONT.—The Presbyterians propose erecting a new church building, for which the sum of \$3,000 has been subscribed.

CLINTON, ONT.—The Underwriters' Association have recommended an expenditure of \$2,000 for additional fire appliances.

TRENTON, ONT.—A large deputation has requested the Ontario government to grant \$10,000 towards a smelter to be erected here.

WOODSTOCK, N. B.—Steps are being taken by the farmers in this vicinity to secure the erection of a canning factory in the near future.

BURTT'S CORNERS, N. B.—William Harris will erect a new residence next summer. S. H. Boon also proposes erecting a dwelling.

ARNPRIOR, ONT.—The School Board have adopted the plans of Mr. Andrew Bell, C.E., of Almonte, for a large addition to the public school.

GUELPH, ONT.—G. R. Bruce, architect, invites tenders until to-morrow for the erection of a dwelling on Park avenue. Plans at 37 Oxford street.

HEBERVILLE, QUE.—Henry de la Vallee, of the firm of La Vallee & Cie, Montreal, is preparing plans for a waterworks system for this place.

BRANDON, MAN.—The City Council is petitioning the legislature for power to loan \$8,000 to the promoters of a felt factory who propose locating here.

STRATFORD, ONT.—At an early meeting of the trustees of the Waterloo street Methodist church the question of rebuilding the edifice will be considered.

ST. HYACINTHE, QUE.—The Provincial Board of Health have recommended that the intake pipe of the waterworks be removed further up the river and a filter put in.

WINDSOR, ONT.—Mr. Thomas Tait, of the C. P. R., states that if the citizens are disposed to grant a bonus the company will consider their proposal to build a 250,000-bushel elevator here.

NEW WESTMINSTER, B. C.—Mr. J. R. Roy, C.E., who was appointed by the Federal government to survey the Fraser river, with a view of constructing dyking improvements, has commenced the work.

BARRIE, ONT.—Thos. Kennedy & Co., architects, will receive tenders up to the 27th inst. for the erection of a brick resi-

dence for W. F. W. Lent, Elmvalc.—The Town Council are considering the purchase of an electric light plant, to be operated by the corporation.

TILBURY CENTRE, ONT.—Tenders are being received this week for the erection of a new school, frame, with brick and stone foundation, 32 x 36 feet.—W. P. Walsh contemplate rebuilding his elevator.

LONDON, ONT.—The Medical Association favor a new hospital in preference to enlarging the present one. The cost of a new hospital would be about \$75,000, and reconstruction of the old building \$30,000.

KEEWATIN, ONT.—The Ottawa Gold Mining and Mining Co. propose to erect a large stamp mill. The promoters, among whom are John Mather and A. W. Fraser, of Ottawa, propose to expend \$100,000.

RIDGETOWN, ONT.—A deputation from this vicinity has asked for Dominion government aid for the Lake Erie & Detroit Railway, which it is proposed to extend from this place to St. Thomas, a distance of 42 miles.

ST. CATHARINES, ONT.—Wood Bros. are asking for tenders until the 24th inst. for erecting a two and a half story stone and brick addition to factory.—The City Council have under consideration the purchase of a road machine.

SUMMERSIDE, P. E. I.—Preparations are being made for the erection of two brick buildings, which will be completed during the coming summer, by two leading business firms, Sinclair & Stewart and Brace, McKay & Co.

DELORAINÉ, MAN.—The plans of Mr. Lang, architect, have been adopted for the erection of a new Methodist church. The proposed building will be 44 x 72 ft., with stone basement and solid brick auditorium; estimated cost \$5,500.

ASHBURNHAM, ONT.—The Department of Railways and Canals, Ottawa, are receiving tenders until to-morrow for constructing a railway bridge here. Plans may be seen at the office of the Chief Engineer of Railways and Canals, Ottawa, and at the office of the superintending engineer at Peterboro'.

WINDSOR, N. S.—Architects are asked to submit competitive plans for a brick and stone school building. Information from Jas. C. Geldert, Town Clerk.—Tenders for erecting a brick chimney for the Windsor Electric Light and Power Company will be received until the 26th inst. George H. Curry, secretary.

PETERBORO', ONT.—The Peterboro' street railway will probably be extended this spring.—The Street and Bridge Committee of the City Council have decided against the purchase of a stone crusher at the present time.—There is talk of erecting a church in connection with the Presbyterian mission on the Tyendinaga Reserve, a few miles from town.

CHATHAM, N. B.—The town will ask the Legislature for permission to build a system of waterworks, drawing the supply from any source within 20 miles of the town.—Two bills are now before the local legislature, one for the incorporation of a company to construct a waterworks system here, and the other to authorize the town to undertake the work.

RAT PORTAGE, ONT.—Peters & Head, architects, have in hand the following buildings. Improvements to the Hilliard House, a block containing an opera house and offices; block of stores for George Drewry, three-story building for Brydon & Robinson, new school-house for Kewatin; residence for Mr. Weir, manager of the Imperial Bank; block of stores for Gibson Bros.; improvements to Mr. Nicholson's residence, and a three-story block for Jacob Hose. We under-

stand from other sources that there are in contemplation a block for Dr. Scovil; a block for Mr. Kyle; a block for R. S. Horswill; as well as a number of residences for renting purposes.—George Drewry asks tenders until the 20th inst. for erecting a two story brick veneer dwelling. Plans at office of Peters & Head, architects.

ST. JOHN, N. B.—Plans have been prepared by E. H. Fairweather, architect, for offices for Dr. McLaren in connection with his house on Cobourg st. Tenders are now being received.—The common council have decided to build a new fire engine house in the north end, at a cost of about \$7,500.—Tenders are asked by the common council, addressed to H. E. Wardroper, until the 1st of May, for the purchase of debentures to the amount of \$274,000.

HALIFAX, N. S.—The Exhibition Committee will shortly ask for tenders for buildings, track laying, drainage, etc., at the exhibition grounds.—H. S. Tremaine, architect, invites tenders until the 27th inst. for the erection of a brick building, corner of Barrington and Granville streets.

VICTORIA, B. C.—Mr. Rudolph Hering, C.E., of New York, has been engaged to report on the condition of the Beaver Lake filter basin, the source of the city's water supply.—The Mayor has presented a report on the improvement of the streets, in which is recommended an expenditure of \$46,351 for macadam pavements and concrete gutters, \$24,804 for vitrified brick sidewalks on concrete foundations, and \$29,000 for improving the streets beyond the business parts of the city.

MONTREAL, QUE.—The Parks and Ferries Committee have decided on improvements at St. Helen's Island. A new police station will be built and the police sergeants' residence repaired.—The property owners on Commissioners street have drawn up a petition asking that the proposed harbor improvements be proceeded with.—The Harbor Commissioners have still on hand unexpended \$1,700,000 voted by the government for the harbor, while the city has \$400,000 of its harbor loan unexpended.

KINGSTON, ONT.—Power & Sop, architects, are receiving tenders this week for improvements to residence on Beverley street.—Tenders are asked by W. Newlands, architect, for the restoration of a building on Princess street for the T. F. Harrison Company.—Tenders are asked by Arthur Ellis, architect, for erecting a brick residence at Lyn, near Brockville, for G. C. Cummings.—An engineer of the Public Works Department, Ottawa, was in the city this week, reporting on the suitability of the government dry dock as a site for the proposed grain elevator.

WINNIPEG, MAN.—The Board of Works will recommend to the City Council the erection of a morgue and chapel at Brookside cemetery, to cost \$2,000.—Pavements will be constructed throughout the city this year to the value of \$100,000.—The residents of Ward 3 will urge upon the City Council the erection of a new schoolhouse in that district.—Tenders are asked by H. Wilson, Chairman of the Committee on Works, until Wednesday, the 24th inst., for the supply of a steam pump and six to ten dump wagons. Specifications may be obtained on application to the City Engineer.

HAMILTON, ONT.—The project of erecting a University for Ladies is still being advocated.—The City Engineer has prepared specifications for a dynamo for the sewage disposal works, and tenders therefor will shortly be invited.—Charles Mills, architect, has been granted a permit for a brick addition to Association Hall, to cost \$7,000.—The Board of Gov-

ernors of the city hospital have passed a resolution requesting the mayor to call a public meeting to consider the question of erecting a wing to the hospital.—At a meeting of the shareholders of the Hamilton and Ancaster Radial Railway, a resolution was passed to obtain the necessary powers from the legislature to extend the road to Brantford. The cost of the extension is estimated at \$200,000.

OTTAWA, ONT.—Mr. Rudolph Hering, C.E., of New York, will have his plans of the main drainage scheme completed early in April.—The City Engineer has been asked to submit an estimate of the cost of a scoria block pavement on York street.—The Mayor is advocating the erection in this city of a hospital for incurables.—The City Clerk gives notice that debentures will be issued to raise about \$28,000.—The proposed orphanage to be erected by Sister Ste. Cecilia, Superioress of St. Joseph's Orphans' Home, will be a four-story structure, with wings on each side, and fitted with all modern improvements. Mr. J. S. J. Routhier is the architect, and tenders will be invited in a few days; estimated cost, \$30,000.—At the annual meeting of the Royal Academy of Arts held last week it was decided to take immediate steps to urge upon the government the necessity of erecting a suitable building for the society.—The plans have been completed for the new wing to the Water street hospital, which will be 112 x 45 feet, four stories and basement, with first-class elevator. The present building will be changed into wards.

TORONTO, ONT.—The Property Committee have decided to recommend that the City Council grant the sum of \$50,000 towards public school improvements.—Several new houses are to be erected on Main st., East Toronto.—The City Engineer has recommended the construction of the following pavements: 24-ft. cedar block pavement on Baldwin, from McCaul to Beverley, cost \$950; gravel pavement on Lisgar street, from Aston to Dundas, cost \$2,120; gravel pavement on Beaconsfield, from Aston ave. to Queen, cost \$2,100; brick pavement on concrete on Walmer road, from Bloor st. to Lowther ave., cost \$6,100; 6-foot concrete walk on Prince Arthur ave., from Avenue road to Bedford road, cost \$968; 12-foot brick walk on Richmond st., south side, from Yonge to Victoria st., cost \$482; 11-foot concrete walk on West Market st., from King to Front, cost \$940.—R. J. Edwards, architect, is receiving tenders this week for a residence in Montreal.—John Poucher, of the Yonge street arcade, wants tenders for building farm house 30 miles west of Toronto.—Plans are said to have been prepared for a new building to be erected by the Toronto Street Railway Company at the corner of King and Church streets.

FIRES.

The planing mill of George Baker, at Lake Dauphin, Man., was burned recently.—At Lakeport, Ont., on the 11th inst., the residence of Samuel Winn was totally destroyed by fire.—The boot and shoe store of Haines & Lockett at Belleville, Ont., was burned last week. The loss on the building is estimated at \$5,000.—L. E. Parson's saw mill at Golden Lake, Ont., was destroyed by fire recently; loss \$4,000, small insurance.—The Coponaning Hotel at French River, Ont., owned by Adams & Burns, of Toronto, was lately destroyed by fire.—A building at Kingston, Ont., owned by J. McLeod has been damaged by fire to the extent of several thousand dollars.—The oatmeal mill of John Wright & Sons, at Owen Sound, has been damaged by fire to the extent of \$1,000.—The residence of Stephen Cameron, near Richibucto, N. B., was destroyed by fire recently.

CONTRACTS AWARDED.

CARLETON PLACE, ONT.—Mr. Munro, of Pembroke, has secured the contract for erecting the new C. P. R. shops here. The building will be 300 x 60 feet.

GODERICH, ONT.—Luke Madigan, of Mount Forest, has received the contract from the Dominion Government for the construction of harbor works at this place.

GUELPH, ONT.—Contracts for a brick residence for William Hall have been let as follows: Carpentering, D. Young; plastering, H. Henry; other trades, S. Rundle.

L'ASSOMPTION, QUE.—Mr. Edmond Piche, of this place, has been awarded the contract for the presbytery to be built here. J. Alcide Chausse, of Montreal, is the architect.

TORONTO, ONT.—Winslow Bros., of Chicago, have been awarded the contract for the iron staircase work required in the Temple building on Bay street. Geo. W. Gouinlock, architect.

ST. JOHN, N. B.—Foundations are now being laid for a large brick and freestone dwelling-house and offices for Dr. Neagle, cor. Carleton and Wellington roads, from plans by C. L. McKean, architect; cost between \$5,000 and \$6,000.

BROCKVILLE, ONT.—The corporation have awarded the contract for 500 feet of "Baker Fabric" hose to the Gutta Percha & Rubber Mfg. Co., of Toronto. This brings the fire department up to the standard required and keeps them in class "A."

OTTAWA, ONT.—The Dominion government has given a contract for 1,000 tons of steel rails to the Maryland Steel Rail Company. It is provided by the contract that 700 tons are to be delivered at Halifax, and 300 tons at Summerside, P. E. I.

WINNIPEG, MAN.—S. Frank Peters, architect, has let the contract to Kelly Bros. for the erection of a building for Joseph Maw & Co., to be 50 x 100 feet, three stories, solid stone and brick, with plate glass front and large plate glass corner window; office to be finished throughout with British Columbia cedar; estimated cost \$15,000.

KINGSTON, ONT.—The tender of the Canadian Locomotive & Engine Co. has been accepted for the construction of two steel barges for the Montreal Transportation Company.—The tender of W. A. Mitchell has been accepted by the Board of Works for the following supplies: five-inch cut nails, \$2.15 per 100 pounds; blasting powder, \$2.25 per 25 pounds; fuse coils per 100 feet, 45 cents; shovels, per dozen, \$6.50; steel pointed picks, each weighing five pounds, 40 cents; sledge hammers, 90 cents a pound; pick axe and sledge handles, 90 cents a dozen; three, four, five and six inch nails, 2½ cents per pound; Portland cement, \$2.20 per barrel; machine oil, 15 cents a gallon. The Rathbun Company were awarded the contract for lumber, at the following prices, 1½, 2 and 3 inch, \$13.70 per M.; 2 inch cedar sleepers, per lineal foot, \$1.75.

MONTREAL, QUE.—Two additional stories and other repairs will be made to the Stanley Hotel, Windsor street; J. Alcide Chausse, architect. The contract has been awarded to Myre & Lalonde, of St. Henri.—A. C. Hutchison, architect, has let contracts as follows for modifications of a house for the Bell Telephone Company: Carpenter and joiner's work, R. Sharpe; roofing, Geo. W. Reid & Co.; plumbing, Garth & Co.; bricklaying, Amos Cowen; painting and glazing, R. Sharpe; ironwork, Dominion Bridge Co.—W. McLea Walbank has awarded the following contracts for modifications and reparations of a 3-story house on Seigneurs street for Andre Moore: Masonry and carpenter and joiner's work, Beckham & Scott; plumbing and heating, P. O'Connell; bricklaying, plastering, painting and

glazing, Beckham & Scott.—W. C. Doran, architect, has accepted the tender of J. B. Precourt for reparations of a house and one store on St. Lawrence street for Messrs. S. Cuddy & Co. Same architect has let contracts for two stores, corner Sherbrooke and Victoria streets, for Thos. Lamb, as follows: Masonry, Ouimet & Labelle; carpenter and joiner's work, J. O. Leary; roofing, Montreal-Roofing Co.; plumbing and heating, James Ballantyne; plastering, Jeremie Lefebvre; painting and glazing, Geo. E. Blackwell; electric apparatus, J. E. Scott.

BIDS.

LONDON, ONT.—The accepted tenders for the new Baptist church in South London will probably be known before the end of the week.

QUEBEC, Que.—Tenders were received as follows by the city council for the construction of a bridge over the River St. Charles: Dominion Bridge Company, as per city engineer's plan, \$5,892, and for their own plans, \$4,443; A. Rosseau & Company, as per city engineer's plan, \$8,879, or \$13,190 for the whole work. No award has yet been made.

A RECORD ESTABLISHED.

The Champ de Mars on Saturday morning was the scene of a very interesting exhibit, the object of which was to illustrate the "fire proof" and other remarkable qualities of the new wall plaster, known as "Asbestic." Quite a large number of influential and representative people were present, among whom were most of the important architects and insurance underwriters, besides many gentlemen in high standing connected with other businesses and professions.

A small frame building was erected, plastered inside with this material, and raised about a foot from the ground to allow of a strong draught. This was then more than half filled with dry kindling wood, shavings, saturated with coal oil, etc., sufficient to make a fierce blaze, and ignited. The fire inside was kept supplied with similar combustible

materials for nearly three-quarters of an hour, and was then extinguished by the means of an ordinary fire hose, in the hands of Captain Dolan, of St. Gabriel street station. When the interior was cool enough to examine it was found that the plaster, although a little discolored, was otherwise uninjured, and the building itself showed absolutely no signs of any contact with the flames, not being even singed. A more thorough test it is hard to conceive of, and there is no doubt that, wherever this material is used, a fire will be confined for a long time, if not entirely, to the apartment in which it takes place.

A similar test was made in Washington, under the supervision of the principal officials of the supervising architect's office, amongst whom were Mr. Raymond, in charge of the testing and experimental work, Mr. Adams, chief of the heating and ventilating department; Chief Engineer Watts, General Steinmetz, and Mr. H. G. Balkham, inspector and surveyor of risks for the Association of Fire Underwriters.

Similar tests have been arranged for in Ottawa, and in both London and Birmingham, England, whilst the principal architects in the United States and Montreal are proving their appreciation by specifying it. For example, in Montreal, such buildings as the Young Women's Christian Association, on Dorchester street; the McDonald & McIntyre building, on Victoria Square; the Royal Victoria College, Verdun Insane Asylum, and many smaller structures have been, or are in process of being, plastered with "Asbestic."—From Montreal Star, Jan. 25th, 1897.

Since the publication of the above article in the Star, the Authorities at Ottawa have decided on and contracted for "Asbestic" Wall Plaster to be used in the reconstruction of the Parliament Buildings, as the best material of its kind attainable, 100 tons having been shipped for that purpose to Ottawa last week.

At a meeting of the creditors of The Young & Bro. Company, of Hamilton, it was decided to wind up the business. The assets were stated to be \$17,650 and the liabilities \$63,594.

THE Authorities at Ottawa have been investigating the merits of the new Wall Plaster, known as

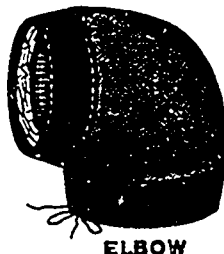
"ASBESTIC"

which is nearly the pure product of Asbestos, and possesses all the remarkable qualities of that mineral, being Absolutely Fire-Proof, and as a Plaster, Cohesive and Elastic, besides allowing a Perfect Surface Finish. The result of such examination and investigation, from actual work done in Ottawa, and the opinions of eminent Architects, is to prove that it is all that it is claimed to be. A large order has been given for this material, which is to be used in the reconstruction of the Parliament Buildings, lately destroyed by fire.

The Authorities have shown great wisdom in their choice, as the cost over ordinary plaster is very trifling, and the advantages so manifest to every Architect who has given this remarkable production careful attention, that it cannot fail to commend itself as a positive assurance of safety against fire risk, entailing the minimum of cost for such an object.

For Further Information Address

THE ASBESTOS & ASBESTIC CO., Ltd.
DANVILLE, QUEBEC



MICA BOILER AND STEAM PIPE COVERINGS

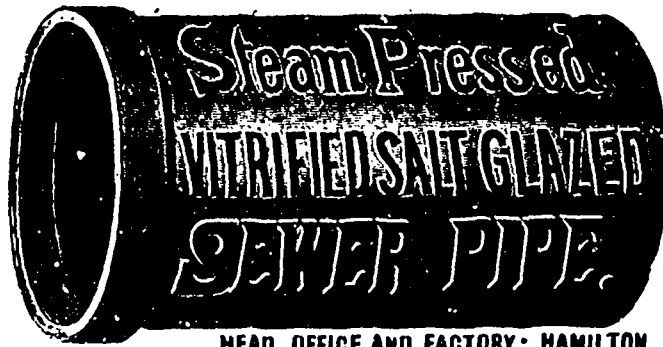
The Highest Non-Conductor and the Cheapest Covering on the Market.

Full Particulars from
The Mica Boiler Covering Co. - 9 Jordan St., Toronto
MONTREAL WINNIPEG

A NEW STYLE OF DREDGER.

A new kind of scouring dredger, designed by F. Kretz, of Karlsruhe, is exciting considerable interest. The object of the dredger is to clear rivers which are subject to floods and silting up, to restore the navigating channel, and to deposit the mud that is not washed away by the dredger and the current on the sides of the channel. Two hydraulic basins and pipes are fixed to the front of the dredger (or also on the boat), so that the scouring pipes meet under an acute angle. Each pipe is provided with many nozzles through which the water rushes under pressure, either downward, stirring the mud up, or more generally in a lateral stream, which undermines the layer of mud. The dredger advances slowly up stream. The pipes clear or undermine a passage which is constantly widening until the full length of the hydraulic device has passed, so that the mud remains in continuous agitation. The nozzles are adjustable, and the pressure can be regulated by means of throttle valves. The whole apparatus is of course protected, and angle irons under the pipe effect a certain amount of scraping.

THE HAMILTON AND TORONTO SEWER PIPE CO. (LIMITED.)



— FOR —
**SEWERS,
CULVERTS
AND
WATER PIPES.
INVERTS**
For Brick Sewers

Write for Discount

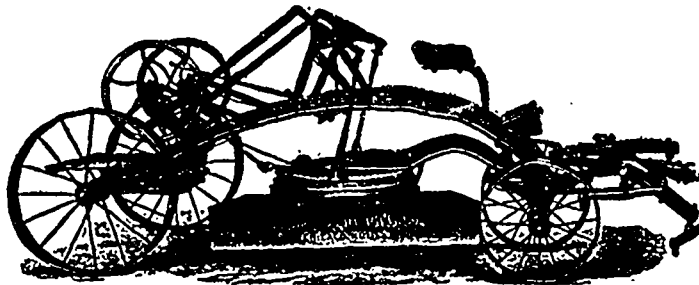
HEAD OFFICE AND FACTORY: HAMILTON, CANADA

JOSSON CEMENT .. Manufactured at..
NIEL ON RUPELL

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

C. I. de Sola, Manager in Canada .. 180 St. James Street, MONTREAL

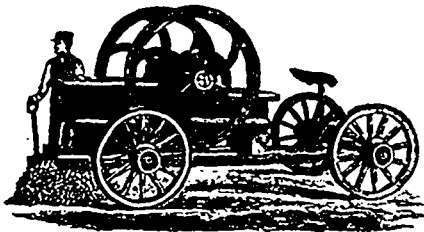
**AUSTIN
Reversible
ROAD
GRADER**



**BEST
FINISHED,
MOST
COMPLETE.**

We claim to have
attained

PERFECTION



Austin Rock Crusher.

Branch Houses

LONDON, ONT.
WINNIPEG, MAN.
ST. JOHN, N. B.

F. C. Austin Manufacturing Co.

Cor. Carpenter St. and Carroll Ave.,

CHICAGO, ILL.

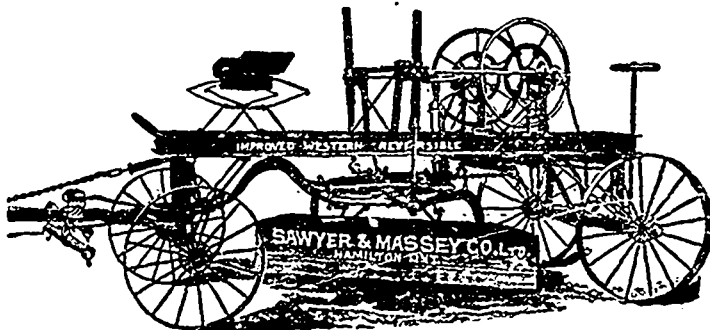
Manufacturers of . . .

A Full Line of **EARTH-MOVING and ROAD-MAKING MACHINERY**

New Era Graders, Wheel Scrapers, Leveling Scrapers, Dray Scrapers, Plows, Reversible Road Rollers, Ditching Machines, Street Sprinklers, Street Sweepers, Well Drilling Machinery, Etc., Etc.



ROAD MAKING MACHINERY



We are prepared to supply Municipalities, Contractors, etc., with the Latest Improved

ROAD MAKING MACHINERY

Catalogues on Application. Correspondence Solicited.

Sawyer & Massey Co., Ltd
HAMILTON, ONT.

MUNICIPAL DEBENTURES wanted for foreign clients. We can place Debentures direct with foreign clients without charge to municipalities.

: : : Commission allowed to persons introducing new business : : : :

EMILIUS JARVIS & CO. (Member Toronto Stock Exchange) Stock and Bond Brokers. Investment Agents. 23 King St. West, TORONTO
ELECTRIC RAILWAY BONDS PURCHASED. STOCK EXCHANGE ORDERS PROMPTLY EXECUTED.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

DEBENTURES BOUGHT

Municipalities saved all possible trouble.

G. A. STIMSON & CO.

Investment Dealers

9 Toronto Street - TORONTO

ARTIFICIAL STONE PAVEMENTS

SIDEWALKS A SPECIALTY

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

The Silica Baritic Stone Company of Ontario, Ltd.

WALTER MILLS, General Manager.

Head office: INGERSOLL, ONT.

Flush Your Sewers with

THE MILLER AUTOMATIC SYPHON (PATENTED)

Received HIGHEST AWARD at the World's Columbian Exposition for

- (1) SIMPLICITY OF CONSTRUCTION,
 - (2) EFFECTIVENESS, (3) RELIABILITY
- Write for Prices and Particulars.

VICTOR HILL, General Agent. 39 D'Arcy St. TORONTO.

THE THREE RIVERS IRONWORKS CO.

Montreal Office: IMPERIAL BUILDING.

THREE RIVERS, P. Q.

MANUFACTURERS OF

Cast Iron Water and Gas Pipes

of best quality, from 2 inches in diameter.

HYDRANTS, VALVES and GENERAL CASTINGS.

THE STANDARD DRAIN PIPE CO.

OF ST. JOHNS, P. Q., (LIM.)



Manufacturers of Salt-Glazed Vitrified

SEWER PIPES

Double Strength Railway Culvert Pipes, Inverts, Vents,

AND ALL KINDS OF FIRE CLAY GOODS

CANADIAN CONTRACTOR'S HANDBOOK (2nd edition). Price \$1.50; to subscribers \$1.

STEAM AND POWER

FOR ALL DUTIES



NORTHEY Co. LTD.

TORONTO, ONT.

THE LAURIE ENGINE CO., MONTREAL
Sole Agents for Province of Quebec.

CAST IRON WATER PIPES

From 4 in. to 36 in. Diameter.
BELL AND SPIGOT • TURNED AND BORED
AND EVERYTHING NECESSARY FOR

A Complete Water or Gas System

SUPPLIED BY The LONDONDERRY IRON CO., Ltd.

LONDONDERRY, NOVA SCOTIA

THE MOST COMPLETE IRON WORKS IN CANADA (ESTABLISHED 1852.)

Send for Drawings and Estimates of our work.

ALL PIPES CAST VERTICALLY

BRAND "SIEMENS"

- WE MAKE
- PIG IRON
 - WATER PIPES
 - PUDDLED BAR
 - HYDRANTS, VALVES
 - PIPE SPECIALS
 - HEAVY CASTINGS
 - STRUCTURAL WORK
 - ARCHITECTURAL WORK
 - MACHINE WORK
 - HYDRAULIC MACHINERY
 - TURBINES
 - BAR IRON

The Central Bridge and Engineering Company, Ltd.

Capital Stock

PETERBOROUGH, ONT.

\$200,000.00



WM H LAW - Manager and Engineer.

Manufacturers of RAILWAY and HIGHWAY BRIDGES

Viaducts, Piers, Roofs, Turntables, Girders and Architectural Work

CAPACITY: 5,000 TONS PER ANNUM

"RAMAPO" SAFETY SWITCH STANDS

MUNICIPAL DEPARTMENT

THE DISPOSAL OF SEWAGE AT OTTAWA.

Mr. Georges Janin, C.E., a noted French engineer formerly of the Noted Corps des Pouts et Chaussées, has submitted a report to the City Council on the best method to be adopted for disposing of the sewage of the city of Ottawa, of which the following is a synopsis:

Last autumn, after the rejection by popular vote of certain plans for the drainage of Ottawa, certain prominent citizens—aware that I had the experience in the matter of sewage disposal in Paris, France, and elsewhere—honored me with a request that I should submit a criticism of the methods which obtained in the large cities of the world, and give my opinion as to the best available system for this city.

In accordance with this request I have carefully studied the existing drains, as well as the various schemes already advanced, and especially those submitted to the city council on the 26th December, 1893, and on the 28th August, 1896.

I have examined the topography of the city and its surroundings, and after careful consideration I have come to the conclusion that any scheme, the object of which would be to place the outlet of the sewers in the river above the city or in any part of the city within the city limits, must be rejected as being absolutely opposed to sanitary laws; and that impure waters must by following the natural declivity, be conducted to the east of the city, and outside of its limits. The best site for the discharge of the sewers would be at the eastern end of Rockcliffe heights, where the outlet of Mackay lake discharges into the river.

But while this site is suitable from an economical point of view by giving to the main sewer the most logical and cheapest route from the western end of the city; while it answers to a certain extent the sanitary requirements by carrying impure waters outside of the city limits, still it consecrates the dangerous principle of the pollution of the river, a principle so absolutely adverse to public health that it has been condemned by all scientific men who have dealt with hygienic questions, and by all engineers who have made a specialty of the subject of sewage disposal. Beyond this, there is a growing consciousness of the danger incurred by making the source of supply for one city the receptacle of the sewage of another. This danger is so great that on the report of the general board of health of England, presented after a succession of epidemics attributed to the pollutions of the stream by such scientists as Dr. Frankland, Prof. Rawlinson, Dr. Smith, Clare Jewel, and others, the British Parliament in 1876 passed a law entitled "The Rivers Pollution Prevention Act," which strictly prohibits the discharge of impure waters into the rivers. Under this law the local government boards were induced to adopt various systems, which I intend to examine hereafter, in order to eliminate the noxious principle of the sewage waters. The example of England was soon followed by France, Germany and other European nations, and there can be no doubt that it is only a question of a few years before the practical acknowledgement of this principle will be adopted by all civilized countries.

The composition of sewage waters necessarily varies from many causes. It will be sufficient here to quote the words of Mr. de Freycinet, chief engineer of roads and bridges and ex-minister of public works in France: "Sewage waters are the most powerful and the most general of all the causes of contamination (of drinking supplies), for they carry all the impurities which human activity generates, from the waste products of manufacture to the refuse of the dwelling house.

SEWAGE AND SAWDUST.

The solid organic substances of sewage deposit themselves with the mineral matters in the order of their weight and size, and form banks of mud, which when exposed to air and sun by the receding of the water undergo rapid decomposition. But it is not necessary that exposure to air should take place, for even under the water a very active putrefaction occurs, and this would be especially observable in a river like Ottawa, where banks of sawdust exist on the bottom. The soluble organic matters are taken into solution by the river and pollute it. The effect of all this is to render the water of the river a suitable breeding place for all sorts of bacteria which find entrance to it. These may be, and no doubt are, for the most part harmless, but disease germs find as favorable a medium of culture in it, and hence the greatest source of danger, for it is evidently quite impossible in a large city to prevent the entrance of disease germs (typhoid, cholera, diphtheria, anthrax, etc.) into the sewage. All natural matters contain oxygen in solution. The organic matters from sewage remove this oxygen, and with its removal the water becomes more than ever fitted to the development and nutrition of many of the most dangerous micro-organisms.

The methods in use for destroying the harmfulness of sewage may be classified as follows:

1. Process of separation, i.e., isolating the solid matter from dwellings, etc., from what is properly known as drain water.
2. Mechanical processes, such as deposition and filtering.
3. Chemical processes, i.e., employment of reagents with the view of precipitating the impurities.
4. Soil purification processes.

The separation system must be condemned as involving great cost, and being far from satisfactory in a hygienic sense.

The filtration process has been thoroughly tried at Birmingham, England, and elsewhere, and has been abandoned.

Chemical processes for the purpose of rendering sewage harmless are very numerous, and it would take too much space were I to attempt to describe them in detail. Suffice to say that they are all falling into disfavor and in most cases have been abandoned after trial.

Soil purification of sewage water is the method now in favor in England, Germany and France. In the last named country I had the honor of co-operating with the learned engineer, Durand-Claye and his emulator, Mr. Masson, inspector of the drainage of Paris. To this process I beg leave to call your attention. It consists in the filtration of the sewage waters through a permeable soil, affording a sufficient thickness and all facilities for the outflow of the purified waters, either by a sufficient slope of the previous stratum, or by artificial drainage. That the soil is the most perfect purifier of waters charged with organic matters is proved, first: by the organic purity of spring waters; second, by careful experiments with impure waters, which are subjected to analysis before and after percolation through the soil. It must suffice here merely to make the following statement. Details are given in my larger report.

The first 8 to 12 inches of earth acts as a mechanical filter of a most efficient type. In the next stratum occurs an oxidation of the organic matter by the oxygen in the soil, aided by living organisms normally present in it. A column of three feet of arable soil suffices to completely purify the most objectionable sewage water and to render it quite free from germs of disease, although these may have been plentifully present in it initially. If the soil employed be first treated with chloroform and thus sterilized by killing the bacteria in it, the soil so sterilized no longer acts as an efficient filter, showing that the presence of lower forms of life in it is actually necessary to the efficiency of the earth filter. Finally, the soil is itself highly enriched by the organic matter which it takes from the sewage, and thus an economical value is given to the method of soil purification. Many analyses of vegetables grown on such soil have been made, and in no case has any diseased or unsafe food product resulted from the use of these fields as market gardens. This system is in use in 150 towns and cities in Great Britain, notably at Edinburgh, Merton, Barking, Wrexham, etc. Also in France at Paris, Reims, Dijon, Toulon, Marseilles, etc., and in Germany at Berlin, Dauszig, Breslau, etc.

Finally, I believe that in advocating the establishment of a sewage farm I am recommending the only method by which the non-pollution of the river can be effected, the health of the citizens guaranteed and the convenience of water carriage of sewage obtained.

I have elaborated the outlines of a scheme of drainage of the city of Ottawa, arranged with a view to the establishment of a system of purification through the soil; and I hope that you will do me the honor of utilizing my service, and my experience.

Drummond McCall Pipe Foundry Company,

Canada Life Building - MONTREAL.

MANUFACTURERS OF

CAST IRON WATER AND GAS PIPES

WORKS: LACHINE, QUE.

PRICES ON APPLICATION.

ST. LAWRENCE FOUNDRY COMPANY, LTD. Manufacturers of

CAST-IRON WATER & GAS PIPES.

ARCHITECTURAL IRON & STEELWORK.

Front St. East
TORONTO, ONT.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

ENGINEERS

WILLIS CHIPMAN

B. A. So. (McGill). Mem. Can. Soc. C. E. Mem. Am. Soc. C. E.; M. Am. W. V. Ass'n.

Civil and Sanitary Engineer TORONTO

WM. NEWMAN, C. E.

A. M. Can. Soc. C. E., M. Am. W. Wks. Assn. CITY ENGINEER OF WINDSOR.

Civil and Sanitary Engineer Waterworks, Sewerage, Drainage, Pavements, &c. Fleming Block - WINDSOR, ONT.

G. H. MASSY, B. E., M. C. S. C. E.

CIVIL ENGINEER

Railways, Waterworks, Foundations, Drainage, &c., &c.

180 St. James Street - MONTREAL

GEO. WHITE - FRASER

C. E., D. T. S., A. A. M. INST. ELEC. ENG CONSULTING

ELECTRICAL ENGINEER

Electric Railways and Electric Light. SPECIALTY: Specification and Superintendence of MUNICIPAL PLANTS. 18 Imperial Loan Building - TORONTO.

VAUGHAN M. ROBERTS

Civil and Sanitary Engineer

Waterworks, Sewers, Electric Light, Electric Railways.

Plans and Specifications prepared.—Work Superintended. 18 Ontario Street, ST. CATHARINES

DAVIS & VAN BUSKIRK

Graduates Royal Military College of Canada.

CIVIL ENGINEERS

SPECIALTY: Municipal Engineering, including image, Sewerage, Sewage Disposal, Waterworks, Roadways and Bridges.

W. F. Van Buskirk, A. M. Can. Soc. C. E., Stratford Wm. Mahlon Davis, M. Can. Soc. C. E., Woodstock

J. McDOUGALL, C. E.,

ENGINEER OF THE COUNTY OF YORK

GENERAL MUNICIPAL ENGINEER

Consulting Engineer for Municipalities in regard to Electric Railway and other Franchises. Specialties: Bridges, Foundations, Electric Railways, and Roads. Surveys made; Plans, Specifications and Agreements prepared, and work superintended. COURT HOUSE, - TORONTO.

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

(Member Can. Soc. C. E.)

CONSULTING ENGINEER AND EXPERT

Specialties: Water Supply and Sewerage, etc. Electric Power, Lighting, Railways, etc.

Offices: CANADA LIFE BUILDING - TORONTO

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

Table listing various categories such as Architects, Chimney Topping, Interior Decoration, Reflectors, Roofers, etc., with corresponding page numbers.

Municipal Officers, Town Clerks, &c., are requested to mention the CANADIAN CONTRACT RECORD when corresponding with advertisers.

Paving Granite. Municipal Sets for Street Paving. — CURBING cut to any shape ordered. — Fine Rich Colors for Building and Monumental Purposes. Quarries, St. Philippe d'Argenteuil, P. Q. Address all communications to JOS. BRUNET - COTE DES NEIGES, MONTREAL

BELLHOUSE, DILLON & CO., 30 St Francois Xavier St., Montreal. Sole Agents for the Compagnie Generale des Asphaites de Franco (Rock Asphalt). PORTLAND CEMENT-NORTH'S GONDOR, SITTING LION and WHITE CROSS Brands. Paving and Fire Brick a Specialty. NORTH'S "GONDOR" BRAND AWARDED FIRST PRIZE AND GOLD MEDAL AT THE ANTWERP EXHIBITION. The Pioneers in Canada in the Manufacture of Road-Making Machinery.

THE CELEBRATED STEEL CHAMPION ROAD MACHINES. Address: GOOD ROADS MACHINERY CO. - Hamilton, Ont.

Advertisement for GABISHORE-THOMSON PIPE & FOUNDRY CO. LTD. featuring a large logo and text: 'ESTABLISHED 1870', 'SPECIAL CASTINGS AND ALL KINDS OF WATER WORKS SUPPLIES. HAMILTON ONT.' Includes names of Alex. Gartshore, J. G. Allan, and Jas. Thomson.

Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: The decline in the price of cut nails has stimulated trade in that line slightly, but as yet there is very little volume to business. The combine which has existed for some years among some of the manufacturers of brass goods has been broken, and as a result it is anticipated that cutting of prices will follow. The movement in general hardware is light, which is no doubt accounted for in part by the uncertainty of tariff changes. Foreign markets in pig iron are depressed in view of excessive supplies.

MONTREAL. It was expected that the Dominion government would award tenders for cement, but this has been postponed until the 20th inst. There is very little demand from the west, and few local orders are reported. Some improvement is reported in paints and oils. Liquid paints are more asked for and business in this particular line is active. Turpentine has fluctuated in price, and now rests at 43 to 44 cents. Pig and bar iron are steady, but no contracts of any importance are reported.

LUMBER.

CAR OR CARGO LOTS.

Table with columns for Toronto and Montreal prices for various lumber types like clear picks, pickers, and shingles.

VAID QUOTATIONS.

Table listing various mill cull boards and scantling prices for Toronto and Montreal.

B. M.

Table listing prices for different types of flooring, sheathing, and sawn shingles.

Toronto. Montreal.

BRICK - M

Table listing prices for various types of bricks like Common Walling, Good Facing, and Sewer.

SAND.

Table listing prices for Common Rubble and Large flat Rubble.

STONE.

Table listing prices for various types of stone like Foundation Blocks, Kent Freestone, and Granite.

OHIO FREESTONE, FROM THE GRAPTON STONE CO.'S QUARRIES.

Table listing prices for various types of Ohio Freestone like Buff Promiscuous and Blue Dimension.

LONGFORD STONE.

Table listing prices for Longford Stone like Rubble and Ashlar.

SLATE.

Table listing prices for various types of slate like Roofing and Terra Cotta Tile.

PAINTS. (In oil, @ lb)

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

Toronto. Montreal.

Table listing prices for Sienna, Umber, and Turpentine.

CEMENT, LIME, etc.

Table listing prices for various types of Portland Cements like German, London, and Newcastle.

Table listing prices for various types of Hydraulic Cements like Thorold and Queenston.

Table listing prices for various types of Lime like Keene's Coarse and Fire Bricks.

HARDWARE.

Table listing prices for various types of hardware like Cut nails, Steel, and CUT NAILS, FENCE AND CUT SPIKES.

Table listing prices for various types of CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX.

Table listing prices for various types of NAILS like 12d to 30d.

Table listing prices for various types of FINISHING NAILS.

Table listing prices for various types of SLATING NAILS.

Table listing prices for various types of COMMON BARREL NAILS.

Table listing prices for various types of CLINCH NAILS.

Table listing prices for various types of SHARP AND FLAT PRESSED NAILS.

Table listing prices for various types of STEEL WIRE NAILS.

Table listing prices for various types of Iron Pipe.

Table listing prices for various types of Lead Pipe.

Table listing prices for various types of Galvanized Iron.

Table listing prices for various types of Steel Beams.

Table listing prices for various types of Steel Channels.

Table listing prices for various types of Steel Plates.

Table listing prices for various types of Sheared steel bridge plate.