

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.

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 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:

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/  
Général (périodiques) de la livraison

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"/>

# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF  
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. 7.

DECEMBER 24, 1896

No. 47.

## 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 2299.

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 Contractor's 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.

## Notice to Contractors

### COUNTY OF YORK

Sealed Tenders, endorsed "Tenders for Abutments of York Mills Bridge," will be received by the undersigned up to 12 O'CLOCK, NOON, OF TUESDAY, JANUARY 5TH, 1897, for the construction of

#### TWO STONE ABUTMENTS

for a Steel Bridge, at York Mills on Yonge Street. Plans and specifications may be seen and all necessary information obtained at the office of the undersigned on and after Monday, Dec. 28th, 1896.

The lowest or any tender will not necessarily be accepted.

By order,  
JAS. McDOUGALL, C.E.,  
County Engineer

Court House, Toronto, Dec. 21st, 1896.

#### CONTRACTS OPEN.

HULL, QUE.—The Hull Electric Co. will put in another dynamo.

GREENWOOD, ONT.—It is probable an electric light plant will shortly be installed here.

SHERBROOKE, QUE.—It is said that the electric railway will not be constructed until next summer.

VERNON, B. C.—The council propose submitting by-laws for the establishment of water and electric light systems.

PARIS, ONT.—Tenders for lighting the streets by 25 or 30 arc lights are invited until the 8th of January. Address S. Dadson, Town Clerk.

WOODSTOCK, ONT.—Plans are in course of preparation for a new church building for the congregation of Norwich avenue Methodist church.

BROCKVILLE, ONT.—Mr. A. Davis, C. E., of Montreal, is making an examination of the waterworks pumping plant at this place with a view to increasing the same.

CHATHAM, ONT.—The question of installing a civic electric light plant is under consideration by the City Council. The present contract for lighting expires in September, 1897.

CARLETON PLACE, ONT.—A by-law has been sanctioned by the ratepayers to grant the sum of \$20,000 to the Canadian Pacific Railway Company towards the erection of workshops here.

WOODSTOCK, N. B.—At the last meeting of the Town Council it was decided to issue debentures for \$1,400 for the construction of an iron bridge carrying the water pipe over *Menunxaket*.

BEACHBURG, ONT.—Tenders will be received by John Brown, secretary North Renfrew Agricultural Society, until noon on Saturday, January 2nd, for the erection of a frame agricultural hall here.

MONCTON, N. B.—D. Pottinger, general manager Intercolonial Railway, will receive tenders until the 6th of January for the supply of timber, lumber, etc., required at the different stations along the line.

ST. THOMAS, ONT.—The owners of the Berlin Electric Railway are said to be negotiating with Colonel Stacey for the purchase of the street railway in this city. Should the deal be consummated it is proposed to electrify the road.

PERTH, ONT.—Mr. Fowler, of Arnprior, representing the Perth and Lanark electric railway, recently placed before the council a proposition in connection with the construction of the road. The matter will be dealt with by the new council.

OWEN SOUND, ONT.—A deputation from this town this week interviewed superintendent Leonard, of the C. P. R., regarding the erection of elevators here. The deputation desire the present floor elevator, which has a capacity of 6,000 barrels, increased to that of 30,000, and

the grain elevator from 200,000 bushels to that of 1,000,000 bushels. The C. P. R. asks for a bonus of \$40,000 before undertaking this.

WINNIPEG, MAN.—Kelly Bros. are making preparations for erecting an asphalt plant. The contract for the buildings will be let shortly.—The congregation of which Rev. Samuel Polson is pastor propose to erect a new church building in the western part of the city.

RAT PORTAGE, ONT.—It is reported that the erection of an opera house will be commenced at an early date.—The marine department at Ottawa is inviting tenders for crib work for the superstructure of the Rainy River rapids improvements. The plans are on view in this town.

HAMILTON, ONT.—A scheme is on foot to amalgamate the electric railways in and around Hamilton, in which case the Hamilton and Dundas railway will be converted into an electric road and extended to Galt, while the Radial railway will be extended to Oakville and later to Mimico.

BERLIN, ONT.—The by-law granting the sum of \$5,000 to Mr. Hibner to assist in rebuilding his factory has been carried by the ratepayers, and work will shortly be commenced.—Two churches will be built here next year, one by the English Baptists and the other by the United Brethren.

CORNWALL, ONT.—A by-law will be submitted to the ratepayers granting the sum of \$35,000 as a bonus to the Ontario and Pacific railway for the construction of a line of railway from Ottawa to Cornwall, the company to build the repair shop in this town and a freight shed and station in the town limits.

QUEBEC, QUE.—David Ouellet, architect, is preparing plans for alterations to the church of Amqui (Metapedia).—Building permits have been granted as follows: Repairs of a house on Palace street for Mr. Taschereau, F. X. Leveille, contractor; repairs on St. John street for G. Raynor, J. R. Kane, contractor.

NIAGARA FALLS, ONT.—The dispute between the directors of the Niagara Central Railway Co. is likely to be satisfactorily settled, when a movement will be made to introduce a suburban service from St. Catharines to Niagara Falls. This service will necessitate the re-building of the road and repairing the present rolling stock. Plans for the scheme are already being considered, and the work will probably commence about the beginning of the year.

ST. JOHN, N. B.—The common council will provide \$14,000 by the issue of debentures for water and sewer extensions in Carleton.—The advisory board have recommended to the harbor improvement committee that the two wharves at Sand Point slip, the berth of 320ft. and that of 400ft., be built next season, on the plans submitted

by Engineer Peters. The lower part of the wharves, below low water, will be of birch, and the upper part of hemlock. It was decided to recommend that tenders be asked for, the first of the birch to be delivered by March 15, and a further quantity by May 15, 1897.

**LION'S HEAD, ONT.**—C. N. Kennedy contemplates building a woollen mill here.

**BRANTFORD, ONT.**—The Board of Trade are considering the question of constructing radial electric railways. Mayor Elliott states that his company propose building a road from Brantford to Ayr, and another from Brantford to Port Dover.

**TORONTO, ONT.**—The City Engineer in his last fortnightly report recommended the construction of a macadam pavement, with stone kerbs and brick gutters, on Huntley street, south from Bloor street, at a cost of \$7,400. The cost of making an underground entrance to the lavatory at the head of Toronto street is estimated at \$2,500. The acceptance of the offer of the Weeks-Eldred Company to install Jones under-feed mechanical stokers at the high level pumping station under two boilers, at a cost of \$2,472, is recommended.—Mr. H. H. Williams, on behalf of a client, has requested a lease of a lot on the island, on which it is proposed to erect a residence to cost \$7,000.—The City Engineer has reported on the proposed extension of the street car system to the island by means of a bridge extending across the Bay from Bathurst street. The estimated cost of the swing bridge is \$61,000, and of the entire work about \$300,000. A bridge across the tracks at Front and Bathurst streets will cost \$20,000, and a permanent pavement on track allowance on Bathurst street, \$9,200.

**MONTREAL, QUE.**—An agitation is on foot to build two new fire stations in St. Henri.—It is probable that the proposed viaduct from St. Henri to Bonaventure depot will be constructed. The matter has been referred to Mr. Hobson, chief engineer of the Grand Trunk railway, and Mr. Stuart Howard, C. E., of the Road Department, to prepare a report for a subsequent meeting of the City Council.—At the last regular meeting of the Board of Health a sub-committee was appointed to memorialize the government to erect a suitable morgue in this city.—The Harbor Commissioners invite tenders until the 5th of January for the construction of a steel tug boat. Plans may be seen at the office of John Kennedy, chief engineer, and tenders are to be addressed to Alexander Robinson, secretary.—The Road Committee have decided to ask the City Council for an appropriation of \$8,500 to purchase 250,000 feet of lumber for the construction of sidewalks.—The School Commissioners of St. Henri will shortly commence the erection of a new convent, at a cost of \$120,000, and a parish school, to cost about \$48,000.—The Bell Telephone Company intend erecting a building at the corner of Metcalfe avenue and Sherbrooke street, Westmount, to be used for the purpose of an exchange. The foundations have been built, and in the spring the balance of the work will be carried out.—It is stated that the Grand Trunk Railway Company have in contemplation the erection of a commodious building at Point St. Charles for the convenience of railway men. The building will be equipped with all latest improvements, including a gymnasium.—The Fire Committee will ask the City Council for the following appropriations: \$10,000 to purchase 12,000 feet of hose; \$7,000 for a large steam engine, and \$7,500 for a new water tower.—A. Prefontaine, architect, is preparing plans for the enlargement of St. Eustache church. Tenders will be invited shortly.—C. St. Jean, architect, has invited tenders for St. Sauveur church.—

Gamelin & Huot will invite tenders in a few days for two houses to be erected on Quiblier street, Westmount.

**OTTAWA, ONT.**—The Department of Public Works is preparing estimates for improvement works on the St. Andrew rapids, and a scheme will be laid before the House at the next session.—An agitation has been commenced to secure the removal of the Dominion Meteorological building from Toronto to this city, in which case a new building will probably be erected by the government.—The superintendent of the government telegraph service is preparing for the construction of a government telegraph line from Esquimaux Point towards Belle Isle. Next year it is intended to add about eighty miles of line, which will carry the wires as far as Natishquan, 666 miles below Quebec.—The chief of the fire brigade has recommended that additional hydrants be provided.—The Calgary & Edmonton Railway Company are making application for an act extending the time for the completion of the unconstructed portions of their railway.—The Metropolitan Life Insurance Company of New York have completed the purchase of the premises at the corner of Metcalfe and Queen sts., formerly occupied by the Ottawa Club, and will immediately undertake extensive improvements.—Plans have been prepared for enlarging St. Barnabus church. The work will be carried out next spring.—At a meeting of the building committee of the Protestant hospital held last week, the plans for the proposed addition, prepared by Mr. A. C. Hutchison, of Montreal, were considered and adopted. They will be presented to the directors at a special meeting to be held at an early date.—The Ottawa, Arnprior and Parry Sound Railway Company have purchased property in Ottawa East and will shortly commence the construction of their workshops.—The village council of Ottawa East have been asked by the School Board to provide the sum of \$1,200 for building a new school.—A railway project has been laid before Mr. J. R. Booth by Major Hughes, M. P. The proposal is to build a line from Haliburton to Whitney, a distance of twenty-five miles. Mr. Booth now has the scheme under consideration.—The City Engineer has stated that the city should provide fire engines for the district bounded by Sussex, Slater Lyon and Wellington streets.—In response to an invitation from the Dominion Rifle Association, eleven sets of plans have been sent in for the proposed Canadian headquarters at Bisley. The building is to be constructed of and finished with Canadian woods.

#### FIRES.

On the 17th inst. E. B. Dolloff's sash and door factory at Fitch Bay, Que., with contents and machinery, was destroyed by fire. Estimated loss, \$8,000; insurance, \$4,000.—The tug Metamora, used by James Playfair & Company, of Midland, Ont., and valued at \$10,000, was burned a few days ago.—The tanning factory of Frank Mungar at St. Thomas, Ont., has been consumed by fire.—The residence of Matthias Carpenter, near Cornwall, Ont., has been burned. Loss partially covered by insurance.—The east end school house at Petrolea, Ont., was damaged by fire on the 20th inst., to the extent of \$1,500, covered by insurance.—At Brighton, Ont., on Saturday last Thomas Webb's block of stores, including Nesbit's grocery and store house, was badly damaged by fire. The loss is heavy and is partially covered by insurance.—B. McCamby's hotel at Manotick, Ont., was burned to the ground on Saturday last. The total loss is about \$9,000.—Fire at Colborne, Ont., on the 20th inst., destroyed J. S. Yeoman's block, Chase Bros. Co.'s block, and damaged W. J. Bur'igh's dwelling. The loss in each

case is largely covered by insurance.—The Toronto Engine Works on Front street, Toronto, were damaged by fire on Tuesday last. The loss is \$8,000, covered by insurance.—The Canada Jute Company's premises at Montreal, Que., have been damaged by fire to the extent of \$6,000.

#### CONTRACTS AWARDED.

**BELLEVILLE, ONT.**—\$50,000 of 4 per cent. debentures, running forty years, have been sold to C. Ernest Gault, of Montreal, at 104.

**STRATFORD, ONT.**—The successful tenderer for the purchase of the House of Refuge debentures was G. A. Stinson & Co., of Toronto, at \$15,271.50.

**ST. JEROME, QUE.**—Over fifty tenders were received for the construction of the new church here. The contract has been awarded to Mr. Boileau.

**TORONTO, ONT.**—The contract for heating the Bay street fire hall has been awarded to the Pease Furnace Company, of this city, the price being \$700.

**QUEBEC, QUE.**—Joseph Couture, of this city, has been awarded the contract for constructing a church and sacristy in the parish of Montmorency, at the price of \$2,000.

**ROSSLAND, B. C.**—The contract for the construction of 20 miles of railway, from Trail to opposite Robson, was let yesterday to Parson, Winters and Boomer, of Butte, Montana. The contract price is nearly \$600,000, and the road is to be built by May 1st, 1897.

**PAKENHAM, ONT.**—The contract for erecting the Presbyterian church here has been awarded to Moffat & Co., of Carleton Place, the figure being in the neighborhood of \$9,000. John McDowal & Son are the sub-contractors for the mason work. The architect is B. Dillon, of Renfrew.

**HALIFAX, N. S.**—The following tenders were received for the erection of a crematory: Fred P. Wakeley, Samuel McManus and D. Joy, of Finlay, Ohio, offered to construct a Dixon sanitary crematory for the sum of \$15,000. It will be 78 feet long, 10 feet high and 10 feet wide. The building in connection with the same will be 96 feet long and two stories high. They offered to erect a smaller one for \$12,000. S. M. Brookfield offered to erect a garbage reducing plant (the Holthaus system) for \$59,000. John McDougall, of Montreal, representing Messrs. Goddard, Massey and Warner, of Nottingham, England, offered to erect a Warner's patent destructor for \$29,000. No action has as yet been taken.

**MONTREAL, QUE.**—Contracts have been awarded as follows for new interior fittings and fixtures for R. E. T. Pringle: Painting and glazing, L. Z. Mathieu; wood work, Mr. Robert.—Messrs. A. Sincennes & E. Courval, architects, have let contracts as follows: One house, cor. Pine and City Hall avenues, for C. Charbonneau—masonry, Valin & Allard; carpenter and joiner's work, Legare & Son; plumbing, David Ouimet; painting and glazing, Hurubise & Desjardins. Four cottages, forming four tenements, to be erected on Mackay street, for Paquette & Gueneille—masonry, Latour, Goulet & Co.; carpenter and joiner's work, D. Gagne; plumbing, Girard & Co.; brick, N. Major; plastering, Alf. Levert; painting and glazing, G. Roy.—Webster Bros. & Parkes have been awarded the contract for mosaic floors, marble lavatories, urinals, etc., for the chemistry and mineralogical building of McGill University.

J. E. Meddaugh, manufacturer of bricks, Wheatley, Ont., has assigned to Joseph Julien.

**ESTIMATING.**

Perhaps there is no more difficult piece of work for a contractor to undertake than that of making up an estimate of work he intends to tender for. Fear on the one hand that he will make his prices so high that a rival contractor will underbid him, and a dread on the other hand that he may overlook some portion of work, or material, or rate the labor so low that loss is certain to follow. Hemmed in on one side by Scylla and on the other by Charybdis, the contractor finds it hard to navigate successfully through a long specification and perplexing series of details, without he has some faithful guide—or helm as it were—in which he can put confidence. The practiced estimator, the man who knows the ropes, so to speak, never trusts to luck or chance when figuring up to put in a tender. He will have a memorandum or a sheet of paper before him containing a list of every possible item required about a building similar to the one estimated on, with the prices of the items attached, the cost of preparing, putting in place and completing. The memorandum or sheet will also contain the prices of all sorts of materials, stones, bricks, lumber, etc., etc., with marginal notes, giving hints and suggestions as to the best and most economical methods of performing the various kinds of work. He will have at his hand tables of quantities so that he may be enabled in short order to figure up the amount of stone wanted, the number of bricks required, of slates or shingles, of rough joists, studs, rafters, collar beams or other timbers; the amount of laths or number of yards of plastering, and of painting, cornice, etc., etc. A "tickler" or "reminder" of some sort is absolutely necessary for correct estimating—that is if there is such a thing as correct estimating; which we very much doubt—and these are easily acquired if a man sets himself about to get one. Keep a good sized memorandum book always on hand, either in pocket or in your office. Keep track of all the work you do each day, the amount and quality of materials and cost of same, cost of labor and time employed; add to these entries, as you may think will be of future use, such remarks as may occur to you, and condense and copy these entries in a suitable book, from time to time keeping each class of work by itself or under its own head—thus, for doors, make memoranda of cost of different styles of doors, pine, whitewood, hardwood, etc., cost of hanging, trimming and hardware for same. Door frames might be put under the same head, including all kinds of door frames, interior, exterior, single and double, for brick, wood or stone, with and without transoms, including everything that may be necessary to complete the work, even to painting and finishing them. Memoranda of this kind, made from actual experience, are worth to the estimator their weight in gold, for with them he can arrive at once at the actual cost of work similar to that estimated for. It takes some time and considerable labor to prepare a book such as I speak

of, and the young contractor will meet with many difficulties in the search after reliable data for it, but, if he is persistent, and lets no opportunity slip in gathering up material, he will soon find himself the owner of one of the best and most reliable "Estimating Reminders" that can be put together.

The great value of a reminder of this sort lies in the fact that the party using it is the party who compiled it, and its weak, as well as its strong points, are known and provided for.

The art of estimating is the most difficult and most troublesome of the contractor's labors; and the man who cannot tie himself down to close application should never attempt to make an estimate, for like "learning," there is no "royal road" to the art. Time and labor under the very best conditions are required to arrive at anything like correct results, and without a "reminder" or other similar aid, it is next to impossible; in fact, the figures are merely the results of labored guess work.

**TRANSOM LIGHTS.**

It is customary to make all transoms of fan-lights the same thickness as the doors below them and to leave the rebate in the stile the same as for the door. This is a mistake, we think, so far as outer doors are concerned, for where the sashes are the same thickness as the door and there is no difference in the rebate, it follows that no stops can be put around the transom light to make it weather-tight and hold it in place. It is suggested that the sashes be left the same thickness as the doors, as they always look more in keeping with the surrounding finish this way than if thinner, and that the rebate above the transom bar be one inch deeper than the rebate for the door, which would admit of a one inch stop being planted all round the transom sash when in place. This, it is suggested, would make a much better job and a much tighter one than the usual way of finishing about a transom light.

The writer is aware that there are other methods of fastening and finishing transoms than those mentioned, but as they are only adopted in the most expensive buildings, they are purposely overlooked here and the more general methods are discussed. This matter of purposely

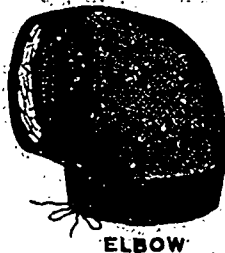
"stopping" a transom light may not appear a startling one, but it is one of those little things that is deserving the attention of those workmen who desire to make the best of everything they do.

With inside transoms the conditions are different, as in most cases they are so arranged as to be adjustable, to open and close at will. There are cases, however, where the system suggested in the foregoing would be just as well suited to the inside transom as to the outside, and where it can be applied, it is our opinion it ought to be, unless special arrangements to the contrary are made. This not only applies to transoms with square heads, but to semi-circular and elliptical transom lights, or transom lights of any shape.—The National Builder.

**TO PRESERVE WOOD.**

A writer in the Technical Review of Natural Science, of Jena, Germany, in a review of the various processes of impregnating wood in order to preserve it, says that he considers the carbolienum avenarias to possess merits of a high order, as it requires no machinery or apparatus, but simply a brush for painting or an iron tank for immersing the woodwork. He says the use of this article is based upon the essential fact that a good system of impregnation must efficiently prevent every degree of the rotting and decaying of wood, even in unfavorable conditions, and it must also be so cheap that no obstacle of this kind will exist to its use in great quantities—must be easily employed and furnished ready for use—another desirable point being that the impregnation be such as will give an attractive color to the treated woodwork. The writer states that these qualities are combined in the substance in question, it being a carbonate of oil of 1.14 specific gravity, and having components which are energetically antiseptic, its boiling point being 557 degrees Fahr. He considers impermeable coatings, which are so much resorted to, as of little value when the wood at the time of their application is not perfectly dry and seasoned, as they prevent, as must naturally be the case, the evaporation of the humidity contained in the wood, especially in certain cases, and rather promote decay.

Frank Squibb, plumber, Hamilton, is said to have assigned to C. Freeman.

**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.  
MONTREAL

9 Jordan St., Toronto  
WINNIPEG

The G. & J. BROWN MFG. CO., Ltd.  
BELLEVILLE, ONT.

**Hoists of all Descriptions**



**Stone Breakers Derrick Fittings**

WRITE FOR PRICES AND CATALOGUE.

**GERMAN PILE DRIVING.**

Mr. H. C. Carpenter, United States Commercial Agent at Furth, Germany, writing of the method employed in driving piles at that place, says: A simple block-and-fall arrangement is rigged up over the pile and to the end of the rope, running through the pulley and fastened to the weight, are attached about twenty-five smaller ropes and hand pieces, and twenty-five men grab these, and, at a signal from one of their number, all pull together. The weight goes up about eighteen inches or two feet, when the men relax their hold and the weight drops. It is unnecessary to state how long it takes by such a method to drive a pile or how much more effectually a small dummy engine would do the work. In the erection of buildings the same tedious process is employed. Every stone to be raised requires the strength of a pair of horses and about fifteen men tugging away at the rope. The machinery manufactured and used in America for such purposes would do away with this clumsy method, but none of it seems to be in the market here.

**WATER PROOFING BRICKS.**

Experiments made to ascertain the length of time that brick and sandstone are rendered water-proof or protected, by oiling, show some valuable results. The oils used were linseed oil, boiled linseed, and the crude mineral oil, known as "blue oil," and the exposure was on a roof fairly exposed to the sun and weather, the bricks being good, sound, machine-made. It is stated that the amount of oil and water taken up by the sandstone was very much less than that absorbed by the bricks, although the area of the sandstone cubes was much the greater. Equal amounts of the raw and boiled oils were absorbed; the blue oil, however, was taken up in much greater quantity by both bricks and sandstone, but by the end of twelve months the whole of the thirteen and one half ounces of blue oil had evaporated, and the bricks had returned to their original state, but those treated

with raw and boiled oils were unchanged. Finally, it was seen that the sandstone cubes treated with raw and boiled oils returned to their original weights, but not appearing to have lost the good effects of the oils, being practically impervious.

A method of finishing a pine floor that gives unsatisfactory results is to well rub in, by means of a cloth, boiled linseed oil, to which has been added a little colour. When this is thoroughly dry the surface is either waxed or varnished; if waxed it needs rubbing occasionally with a little beeswax to bring up its lustre.

Send for a copy of the CANADIAN CONTRACTOR'S HAND-BOOK. Price \$1.50; to subscribers \$1.

**ARTIFICIAL STONE PAVEMENTS**

**SIDEWALKS A SPECIALTY**

**CORPORATIONS** Will do well to consider our work and prices before letting contracts  
**The Silica Barutic Stone Company of Ontario, Ltd.**

**WALTER MILLS,** General Manager. Head office: **INGERSOLL, ONT.**

**FOR ARTIFICIAL STONE PAVEMENTS, ROOFING GRAVEL, CONCRETE, ETC.**

**USE CRUSHED QUARTZITE**

**SILICA SAND & GRAVEL CO.**

Telephone 2444

**MONTREAL**

15 Mill Street

..... Write for prices delivered in your town. ....

**Drummond McCall Pipe Foundry Company,**

Canada Life Building - **MONTREAL.**

MANUFACTURERS OF

**CAST IRON WATER AND GAS PIPES**

WORKS: LACHINE, QUE.

PRICES ON APPLICATION.

**THE THREE RIVERS IRONWORKS CO.**

Montreal Office: IMPERIAL BUILDING.

THREE RIVERS, P. Q.

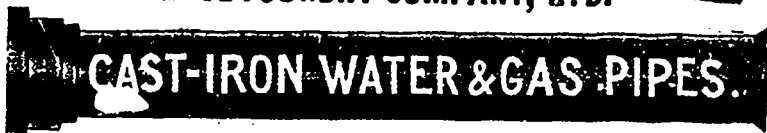
MANUFACTURERS OF

**Cast Iron Water and Gas Pipes**

of best quality, from 2 inches in diameter.

**HYDRANTS, VALVES and GENERAL CASTINGS.**

**ST. LAWRENCE FOUNDRY COMPANY, LTD.** Manufacturers of



Front St. East  
**TORONTO, ONT.**

**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

- 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 . . . . .

BRAND "SIEMENS"

**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

**ÆMILIUS 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

MUNICIPAL DEBENTURES

BOUGHT AND SOLD ON FAVORABLE TERMS

A. E. AMES & CO.

Bankers and Brokers

10 King Street West - TORONTO

EVERY ENGINEER AND CONTRACTOR

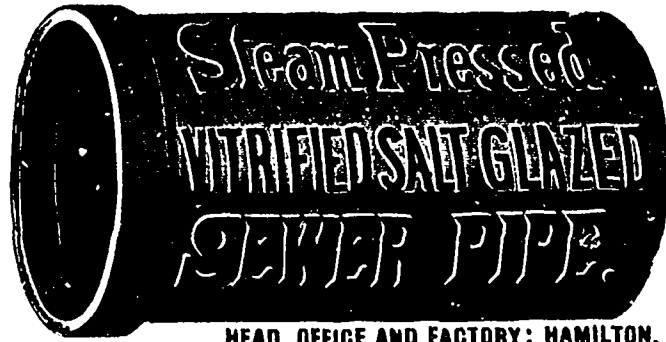
Should possess a copy of the Second Edition of the Canadian Contractor's Hand-Book, a compendium of useful information for persons engaged on works of construction, containing upwards of 150 pages. Price \$1.50; to subscribers of the CANADIAN ARCHITECT AND BUILDER, \$1.00.

Address

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

Branch office: New York Life Building, Montreal.

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

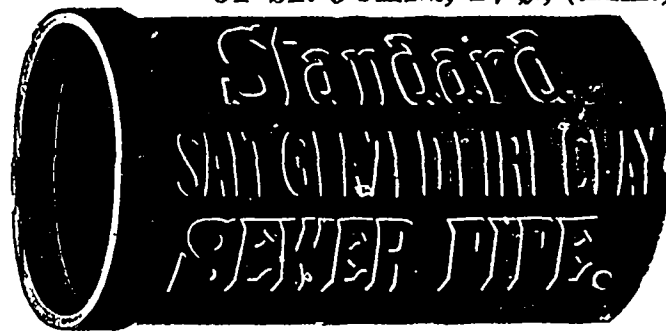


HEAD OFFICE AND FACTORY: HAMILTON, CANADA

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

Write for Discounts

THE STANDARD DRAIN PIPE CO. OF ST. JOHNS, P. Q., (LIM.)



AND ALL KINDS OF FIRE CLAY GOODS

Manufacturers of Salt-Glazed Vitrified SEWER PIPES

Double Strength Railway Culvert Pipes, Inverts, Vents.

JOHN McDOUGALL CALEDONIAN IRON WORKS MONTREAL, P. Q.

WORTHINGTON PUMPS



BOILERS ENGINES

MACHINERY OF ALL KINDS

STEAM AND POWER

FOR ALL DUTIES



NORTHEY Co. LTD.

TORONTO, ONT.

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

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

G. N. REYNOLDS, Local Agency, 118 BAY Telephone 2194

# MUNICIPAL DEPARTMENT

## VALUABLE REPORT ON ROAD CONSTRUCTION.

Mr. A. W. Campbell, Provincial Road Instructor for Ontario, at the request of the City Council of Woodstock, Ont., presented a report on the streets of that town, which contains much information of interest to municipalities who have the subject of road improvement under consideration. We print a large portion of the report herewith :

### ROAD EXPENDITURE.

Money for this purpose is appropriated from the general funds of the town to the amount of about \$2,000 annually. It is distributed among the various wards, and the sum given to each is under the control of the councillor representing that ward on the Board of Works. Under this system the effect invariable is to again subdivide the ward appropriation to such an extent that no work of a durable nature can be attempted. The people expect the amount to be scattered and the council has no course to pursue. The system is fundamentally bad. Money is not spent in accordance with the requirements of street improvement, and the result is waste, extravagance and bad roads. An annual appropriation from the general funds for the repair of roads is found to work satisfactorily and equitably. To construct roads, however, under this method is practically an impossibility, as the expenditure cannot be sufficiently concentrated.

### FRONTAGE TAX.

The most suitable remedy for existing conditions in Woodstock is the frontage tax system. When work is undertaken under it, money is raised by the issue of debentures extending over a term of years. The amount is assessed against the property abutting on the work, or benefitted by it, according to the frontage of the lot, or according to its superficial area, or according to the assessed value of the property. Whichever one of these plans is chosen by the council must be stated in a general by-law submitted to the people for the adoption of the system. By means of the frontage tax system sufficient money can be raised to do durable, serviceable and economical work; and it is the most satisfactory method of consolidating road expenditure. Money thus raised is obtained at a very low rate of interest, and payment being extended over a term of years, the annual taxation is small. The ultimate cost is no greater than under the old system of patchwork, the difference being that less money is wasted. The durable improvements obtained are at once a benefit to the individual property owner, the value of property is increased, and the town as a whole becomes a more desirable place of residence.

Under this system work may be under-

taken in three ways: (1) On the petition of at least two-thirds of the property owners affected, representing at least one-half of the value of the real property benefitted. (2) On the initiation of the council, unless petitioned against by a majority of the property owners affected, representing at least one-half of the property benefitted. (3) On the recommendation of the Board of Health for sanitary reasons. In assessing the cost, ratepayers are notified of the amount, etc., and courts of revision are held, giving an opportunity to appeal, and to adjust any errors in the assessment.

As has been intimated, a general by-law for the introduction of the system must be submitted to the citizens, and must be sanctioned by a majority vote. In framing this general by-law very great care must be taken to adjust it to local circumstances as far as possible. When this is done, and the by-law provides for a just and equitable assessment, street improvement is invariably stimulated. To this end peculiar cases, such as corner lots, triangular or irregularly shaped lots, side hills and similar property should be taken into consideration, also the matter of street intersections, which are sometimes paid for by the property owners on the street, and sometimes by the municipality. The frontage tax has in some cases unquestionably worked injustice, but when the by-law is judiciously framed there is no fairer way of paying for street improvement.

### SUPERVISION OF STREET IMPROVEMENT.

In the direction and supervision of street improvement in Woodstock there are very serious defects. This branch of public work is in the hands of the ward representative on the Board of Works. There are five wards in Woodstock, and each member of the Board of Works is subjected to the possibility of a change annually. The result of such a system is that there is an entire lack of uniformity in street improvement. The work of one year is generally done without reference to the work of succeeding years, in view of which it may be rendered useless. Almost every street presents instances of this defect, in its sidewalks, its drainage, grades, and road metalling. For economical and satisfactory results, there should be someone with a knowledge of the principles of roadmaking and street improvement over this branch of public work, who would examine, stake out, and report to the Board of Works, with plans and specifications, and works of importance should be let by contract. All work should be completed under the supervision of this official. He should be in constant touch with the chairman and Board of Works, and should attend each of their meetings for consultation. Even if all who have ever been members of your Board of Works had been expert roadmakers, the constant change and interchange of plans would necessarily result in patchwork.

### DRAINAGE.

Good pavements are largely a matter of good drainage. Not that the shape of the roadway, the material of which the surface is composed, or the way in which it is laid, are unimportant—but that these are very largely a part of the system of drainage. With the River Thames in the westerly portion of the town and Cedar Creek passing through the southern portion, with natural depressions or water courses leading to those streams throughout the town, admirable facilities for street drainage are afforded.

Underdrainage is one of the first points to consider. In making roads it is the native soil which must really support the weight of the traffic, no matter what paving material is used to surface it. Gravel, stone, brick or asphalt are not sufficiently strong to bridge over a wet

and yielding sub-soil. But it this natural soil is kept in a dry state it can support any weight, and to this end underdrainage is necessary. Underdrainage of common field tile, four to six inches in diameter, should be placed on each side of the carriageway underneath the gutters, and below frost. This "lowers the water-line," and secures a good foundation.

There must be surface drainage, and for this the roadway should be crowned or rounded up, covered with suitable surface material, and open gutters provided to carry away this surface water. The surface metal (grave or other material) of course resists wear, but on streets which are lightly travelled the main object is to prevent the water penetrating the natural soil underneath, making it unfit to support traffic. By crowning the surface of the road, water is shed at once to the side, where provision should be made to carry it away immediately in open gutters.

Gutters or underdrains are useless unless outlets are provided and care should be taken to see that these do not become obstructed. Surface drains may have outlets into the tile drains through catch-basins, or into the sewers where capacity for storm water is provided.

Springs underneath roadways should be tapped with blind drains and the water carried diagonally to the underdrains at the side of the road.

### CROWNING THE ROADWAY.

To secure perfect drainage the roads should be uniformly crowned or rounded. On the streets of Woodstock very little attention appears to have been given to this important matter; as on the majority of streets no crown whatever is made, while in one or two instances, notably Vansittart ave., it is considerably above the adjoining property, driving the traffic to the gutters and making it almost dangerous to turn from the centre. On gravel or macadam streets this crown should be one inch of rise to each foot horizontal from the gutter to the centre; that is the centre of a roadway 24 feet wide should be 12 inches higher than the outer edge. It is well to first establish the grade of the sidewalk and then make the centre of the roadway conform to this as nearly as possible and with the same elevation. On hills the crown should be sharper, say  $\frac{1}{2}$  inch rise to one foot horizontal, so as to draw the water quickly to the gutters and prevent it following the wheel tracks and deepening them to ruts. Obtain the crown chiefly by rounding up the sub-grade or earth foundation, the remainder to be made up by the additional quantity of road metal placed in the centre of the roadway. Thus for a roadway 24 feet wide, the crown of the sub-grade should be nine inches, the remaining three inches to be secured by difference in thickness of gravel between the centre and the sides. Care should be taken to make the crown perfectly circular.

### FORMING THE ROADBED.

The practice in your town has been to pile gravel in the centre of the roadway on the top of the natural soil, or to bring the earth from the gutter to the centre of the roadway, placing gravel on the top of this. This is the plan usually followed in grading township roads, but is totally unsuited for street construction.

The roadbed should be excavated to the required width to receive the gravel, broken stones or other road material and the excavated earth used in making boulevards or filling in the low lots to bring them to the grade of the street. The sides of the streets should be levelled to conform to the surface of the roadway. As far as practicably the crown of the finished street should not be higher than the adjoining property, but should conform to certain established grades.

(To be Continued.)

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

ENGINEERS

WILLIS CHIPMAN

B. A. Sc. (McGill), Mem. Can. Soc. C. E.

Mem. Am. Soc. C. E.; M. Am. W. W. 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. AM. 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

E. GARL BREITHAAPT CONSULTING

Electrical Engineer

MEM. AM. INST. E. E.

Electric Lighting and Railway Work BERLIN, ONT.

DAVIS & VAN BUSKIRK

Graduates Royal Military College of Canada. - - Civil Engineers - -

SPECIALTY: Municipal Engineering, including Drainage, 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.

Paving Granite

Granite Sets for Street Paving. - CURBING cut to any shape ordered. - Fine Rich Colors for Building and Monumental Purposes. Quarries, St. Phillipe d'Argenteuil, P. Q.

Address all communications to JOS. BRUNET - COTE DES NEIGES, MONTREAL

*Architects.*  
Ontario Directory... 111  
Quebec Directory... v

*Architectural Sculptors and Carvers.*  
Beaumont, H... v  
Carroll, Robert... v  
Dom. Art Woodwork Company... v  
Holbrook & Mollington... i  
Lamar & Metzger... v  
McCormack, W N... v

*Architectural Iron Work.*  
Dominion Bridge Co. 1

*Art Woodwork.*  
Dom. Art Woodwork Company... v  
Southampton Mfg. Co... 213

*Boiler Covering.*  
Mica Boiler Covering Co... vii

*Bricks (Pressed).*  
Beamsville Pressed Brick Co... i  
Brockville Pressed Brick Co... xi

*Builders' Supplies.*  
Bremner, Alex... IV  
Currie & Co., W&F.P. xii  
Lawrence & Wiggin... IV  
Montreal Directory... x  
Ontario Lime Association... III  
Rice Lewis & Son... IV  
Toronto Directory... x

*Building Stone Dealers.*  
Credit Forks Mining & M.g. Co... vii

*Builders' Hardware.*  
Rice Lewis & Son... IV

*Church and School Furniture.*  
Can. Office & School Furniture Co... i

*Crossed Status.*  
Cabot, Samuel... IV

*Chimney Topping.*  
Bremner, Alex... IV  
Currie & Co., W&F.P. xii

*Contractors' Plant and Machinery.*  
Rice Lewis & Son... IV

*Cements.*  
Bremner, Alex... IV  
Currie & Co., W&F.P. xii  
Owen Sound Portland Cement Co... IV

*Drawing Tables.*  
Laughlin-Hough Drawing Table Co... II

*Drain Pipe.*  
Bremner, Alex... IV  
Currie & Co., W&F.P. xii  
Hamilton and Toronto Sewer Pipe Co... xii

*Elevators.*  
Darling Bros... v  
Fensom, John... i  
Leitch & Turnbull... i  
Miller Bros & Ions... vi

*Electrical Engineer.*  
Heathcote, W... ix

*Engravers.*  
Can. Photo-Eng Bureau... II

*Fire Brick and Clay.*  
Bremner, Alex... IV  
Currie & Co., W&F.P. xii

*Galvanized Iron Workers.*  
Ormsby & Co., A. B... I

*Granite.*  
Brunet, Jos... v

*Grates, Mantles, and Tiles.*  
Holbrook & Mollington i  
Rice Lewis & Son... IV  
Rogers & Sons Co., Charles... xi

*Heating.*  
Gurney Foundry Co. iv  
Gurney, Tilden Co. viii  
King & Son, Warden III  
McErchren Heating & Ventilating Co... vii  
Ormsby & Co., A. B... I  
Pease Furnace Co... xii  
Toronto Radiator Mfg Co... iii  
The James Smart Mfg. Co... v  
The Howard Furnace Co... vi

*Interior Decoration.*  
Castle & Son... ix  
Elliott, W. H... vi

*Time.*  
Currie & Co., W&F.P. xii  
Mille Roches Lime Co., The... xi  
Ontario Lime Association... III

*Legal.*  
Denton & Tods... ix  
Quinn & Morrison... ix

*Machinery.*  
Petrie, H. W... viii

*Mortar Colors and Shingle Stains.*  
Cabot, Samuel... IV  
Muirhead, Andrew... i

*Ornamental Plasterers.*  
Hynes, W J... vii

*Painters.*  
Montreal Directory... x  
Toronto Directory... x

*Plasterers.*  
Hynes, W J... vi

*Paints and Varnishes.*  
Cottingham Walter H vi  
Munhead, Andrew... i

*Parquetry Floors.*  
Elliott, W H... vi

*Plate Glass.*  
Hobbs Glass Works... v  
The Consolidated Plate Glass Co... v

*Prismatic Glass.*  
Prismatic Glass Co... viii

*Plumbers.*  
Montreal Directory... x  
Toronto Directory... x

*Roofing Materials.*  
Ormsby & Co., A. B... I  
Metallic Roofing Co... xii  
Pedlar Metal Roofing Co... III

*Roof Snow Guards.*  
Gunn, R A... IV

*Reflectors.*  
Friak, I. P... III

*Roofer.*  
Ormsby & Co., A. B... I  
Montreal Directory... x  
Toronto Directory... x

*Sanitary Appliances.*  
Dakin & Co., F. B... IV  
Toronto Steel Clad Bath & Metal Co... ix  
The Young & Bro. Co., Ltd... vii

*Shingle Stains.*  
Cabot, Samuel... IV

*Stained and Doors.*  
Castle & Son... ix  
Horwood & Sons, H. viii  
Hobbs Glass Works... ii  
Maik & Stained Glass Co... viii  
McKerr's Stained Glass Works... viii  
Lyon, N. T... viii  
Prismatic Glass Co... viii

*Shingles and Siding.*  
Metallic Roofing Co. xii  
Ormsby & Co., A. B... I  
Pedlar Metal Roofing Co... III

*Soil Pipe.*  
Toronto Foundry Co. viii

*Wall Plaster.*  
Albert Mfg. Co... II  
Alabastine Co... xii

*Window Blinds.*  
Semmens & Evel... xii

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

BELLHOUSE, DILLON & CO.,

30 St. Francois Xavier Street MONTREAL

Sole Agents in Canada for the

COMPAGNIE GENERALE DES ASPHALTES DE FRANCE

(ROCK ASPHALT)

PORTLAND CEMENT

NORTH'S CONDOR ..... SITTING LION, and... WHITE CROSS ... BRANDS

Paving and Fire Brick a Specialty

JOSSON CEMENT .. Manufactured at.. NIEL ON RUPPELL

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

ALEX. GARTSHORE, PRESIDENT.

J. G. ALLAN, SECY & TREAS.

JAS THOMSON, VICE PRES'T & GEN'L MGR

ESTABLISHED 1870

INCORPORATED 1896

THE GARTSHORE & THOMSON PIPE & FOUNDRY CO. LTD.

MANUFACTURERS OF CAST IRON WATER PIPES, CULVERTS, SEWER PIPE, SPECIAL CASTINGS, AND ALL KINDS OF WATER WORKS SUPPLIES.

HAMILTON, ONT.



Prices of Building Materials.

Toronto. Montreal.

Toronto. Montreal.

CONDITION OF THE MARKET.

TORONTO: The feature of the market this week has been a drop in the price of cut nails. Following the collapse of the nail combine in the United States, American manufacturers made a strong effort to capture Canadian trade, and at a meeting of Ontario manufacturers a reduction of 45 cents per keg was decided upon in order to meet the competition. The price is now \$2.30, with a rebate in car lots of 7 1/2 cents per keg. The lowering in price has not stimulated trade, there being little demand. Wire nails are more active. Cement jobbers are getting in their winter supplies, but few sales are effected. Iron pipe and galvanized iron are selling freely at firm quotations.

MONTREAL: No material change has taken place in the market. The general tone of business is perhaps slightly improved, and some lines are moving freely. Among these are iron pipe, galvanized iron and building paper. A fair business is also doing in fire-bricks and cement, at the advanced quotations. The stock of cement is larger than was at first anticipated, and will be ample for the winter's trade; consequently, values are likely to rule steady. Glass and paints and oils are dull and featureless.

LUMBER.

CAR OR CARGO LOTS.

Toronto. Montreal.

Table with columns for item description and prices for Toronto and Montreal. Includes items like clear picks, Am ins., spruce culls, mill cull boards, and various shingles.

YARD QUOTATIONS.

Table with columns for item description and prices for Toronto and Montreal. Includes items like mill cull boards, shipping cull boards, hemlock scantling, and various lath.

B. M.

Table with columns for item description and prices for Toronto and Montreal. Includes items like flooring, lath, and various types of wood.

BRICK - M

Table listing various types of bricks and their prices, including Common Walling, Good Facing, Sewer, and various colored bricks.

SAND.

Table listing sand prices per load of 1 1/2 cubic yards.

STONE.

Table listing various types of stone and rubble, including Common Rubble, Large flat Rubble, Foundation Blocks, and various quarry stones.

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

Table listing Ohio freestone products and their prices, including Buff Promiscuous, Blue Promiscuous, and various ashlar and granite blocks.

SLATE.

Table listing slate products and their prices, including roofing slate and Terra Cotta tiles.

PAINTS. (In oil, # lb.)

Table listing various types of paint and their prices, including White lead, Red lead, Yellow ochre, and various oil-based paints.

CEMENT, LIME, etc.

Table listing various types of cement and lime, including Portland Cements, Hydraulic Cements, and various grades of lime.

HARDWARE.

Table listing various hardware items and their prices, including cut nails, steel, cut nails, fence and cut spikes, and various types of nails.

SLATING NAILS.

Table listing slating nails and their prices.

COMMON BARREL NAILS.

Table listing common barrel nails and their prices.

CLINCH NAILS.

Table listing clinch nails and their prices.

SHARP AND FLAT PRESSED NAILS.

Table listing sharp and flat pressed nails and their prices.

STEEL WIRE NAILS.

Table listing steel wire nails and their prices.

Steel Wire Nails, 75c and 10% discount from printed list.

Iron Pipe:

Table listing iron pipe products and their prices.

Lead Pipe:

Table listing lead pipe products and their prices.

Galvanized Iron:

Table listing galvanized iron products and their prices, including Adam's-Mar's Best and Queen's Head.

Structural Iron:

Table listing structural iron products and their prices, including steel beams, channels, angles, tees, plates, and sheared steel bridge plate.