## Technical and Bibliographic Notes / Notes techniques et bibliographiques

copy may of th signif	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 co	· - · - •						ŀ			red pages/ de couleu					
	Covers dama	_	gée						1/1	_	damaged/ endomma					
	Covers resto Couverture								1/1	•	restored a restaurées					
	Cover title n Le titre de c	_	manque					[	1 /	_	discoloure décolorées					
	Coloured ma Cartes géogr	•	en couleur					[	1	_	detached/ détachées					
	Coloured ini Encre de co				re)				1 /		hrough/ parence					
	Coloured pla Planches et/o										y of print é inégale c			1		
V	Bound with Relië avec d'								1		iuous pagi tion conti		/			
V	Tight bindin along interio	r margin/							- 1		es index(e rend un (d	-••	lex			
	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							Title on header taken from:/ Le titre de l'en-tête provient:								
	within the te	ext. When d from film	ever possibli ning/	e, these ha	ve				- 1	_	age of issu e titre de l		ison			
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								Caption of issue/ Titre de départ de la livraison								
pas été filmées.								Masthead/ Générique (périodiques) de la livraison								
	Additional commentaire		•													
	tem is filmed cument est fi															
10X		14X	1	18X	]			22X	····		26>	(	<del></del>	30×	<u> </u>	
	12X		16X			20X				24X			28X		32 x	
						~~				~~~			~0^		3£ X	

Vol. 4.

Toronto and Montreal, Canada, February 9, 1893.

No. 1

### 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 2367.

64 Temple Building. -Bell Telephone 2299. Montreal.

Information solicited from any part of the Dominion regarding contracts open to tender,
Advertising rates on application.

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

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

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.

Subscribers and advertisers are requested to note that, beginning with the first number of Volume IV, in February, the CONTRACT RECORD will be published on THURSDAY, instead of SATURDAY, of each week. This change will ensure the prompt publication up to date of issue of contract news from all parts of Canada. After the date mentioned, news of this character, as well as advertisements, should reach the office of publication not later than noon on WEDNESDAY.

To darken the natural bue of wood, use a solution composed of equal parts of manganate of soda and crystallised Epsom salts, dissolved in 20 or 30 times the amount of water, at about 114 degs. The amount of water, at about 114 degs. less water employed the darker will be the

## NOTICE

We solicit orders for our well known specialties, and are prepared to execute the same promptly.

H. R. IVES & CO.

Queen street, MONTREAL.

## WANTED.

at this office, copies of the ARCHITECT AND BUILDER for July, August. September and November, 1889.

#### CONTRACTS OPEN.

CARTHAGE, ONT .- The buildings recently burned by fire will be rebuilt.

THESWATER, ONT .- Materials are being laid on the ground for the erection of the Presbyteman

HARMONY, N. S.-Mr. T. R. Archibald will receive tenders until the 15th inst. for the erection of a school house.

GUELPH, ONT.-Mr. H. G. Cockburn will receive tenders until the 15th inst. for the erection of a two-story brick house.

FORT WILLIAM, ONT .- The Canadian Pacific Railway Company will shortly erect another large grain elevator at this point.

WINGHAM, ONT. - A movement has been commenced to establish a large foundry and implement manufactory here.

PORTAGE LA PRAIRIE MAN. - The Council has decided to immediately ask for plans for the erection of a suitable fire hall.

TINGWICK, QUE. - The Presbyterian congregation have decided to replace their old wooden church with a new brick edifice.

ATHENS, ONT .- It has been decided to erect a new town hall.—Steps may be taken at an early date to provide adequate fire protection for the village.

GANANOQUE, ONT. -At a meeting of the Town Conneil held last week, notice was given of a by-law to have plans prepared for a system of sewerage.

STRATFORD, ONT .- The Perth County Coun cil has decided to erect a new iron bridge on Downie and Fullerton town line, Win. Davidson. County Clerk.

PRESTON, ONT. - The Galt & Preston Street Railway Company will apply to the Town Council for permission to build and operate a street railway in this town.

MONTREAL, QUE. - A meeting of the ratepayers of St. Lambert will be held on Friday next to receive propositions for a system of water supply and drainage.

PORT STANLEY, ONT .- Several thousand dollars worth of stock has been subscribed towards the proposed flour mill. The capital stock of the company is placed at \$50,000.

VANCOUVER, B. C. - Local improvement debentures to the amount of \$111,100 have recently been sold by the city. Most of this sum will be expended for street pavements.

AYTON, ONT.-Rev. P. S. Owens will receive tenders until noon of the 18th inst. for the erection of a brick addition to St. Peter's R. C. church.

GODERICH, ONT .- Tenders will shortly be asked by the County Council for heating the Court House either by hot air, hot water, steam or electricity.

BRADFORD, ONT .- The Presbyterian congregation will either enlarge their present church building or erect a new one. Subscriptions are now being solicited.

MILLARTON, ONT .- Mr. J. J. Nesbut will receive tenders until Wednesday, the 22nd inst., for the erection of a cheese factory building at this place, to be of frame or veneer, and built on stone foundation.

HAMILTON, ONT. The Trustees of the First Methodist church have decided to creet a new Sunday School building, at a cost of \$8,000 - A movement has been commenced to establish an industrial school for boys in this city.

NIARAGA FALLS ONT .- It is said that the authorities of the Grand Trunk Railway have definitely decided to construct a new cantilever bridge across the gorge. The site selected is a short distance below the old suspension bridge.

ARNERIOR, ONT .- I'enders are asked until the 25th inst. for the erection of a school house for School Section, No. 3, McNab. Plans, may be seen on application to E. Kimberly, Donald Stewart, Robert Stewart, Trustees, or at Lyon's Hotel in the town.

WINNIPEG, MAN, -Plans have been prepared for a new warehouse to be erected by Mr. J. H. Ashdown, the site for which has been selected. It will cost between \$25,000 and \$30,000. The congregation of St. Andrew's church has decided to creet a new building on Jenuria street.

PEMBROKE, ONT. - The County Property Committee wishes to obtain information as to the cost of a complete system of hot water or steam heating for the County buildings.-John Steven-Secretary Treasurer, will receive tenders until the 20th inst. for the erection of a new school house in School Section No. 6, Roche Fondu.

LITTLEWOOD, ONT. -Mr. Jos. Baker will receive tenders until the 16th inst. for the erection or a brick Methodist church in the Baker appointment, Westminster circuit. Plans may be seen at Mr. Baker's other in this village, or at the office of McBride, Jones & Larncombe, architects, London.

LONDON, UNT .- G. Craddock, architect, will receive tenders until Saturday next, the rath inst. for making alterations and additions to the store occupied by Pocock Bros., also for the erection of a watchouse on Carling street for Mr. Robert Green. - The sum of \$1,500 has been subscribed towards the erection of a parsonage in connection with St. George's church, London West. The building will probably be crected in the spring,

KINGSTON, ON L.-It is said that Mr. Rathbun. of Deseronto, will undertake the building of smelting works in this city if the Council will grant a bonus of \$300,000 towards the project.-1. O. Bolger., City Engineer, will receive tenders until 6 p. m. of the 16th inst. for the supply of the following materials. 300,000 B. M., of two

and one and one-half each plank for walks . 70,000 feet lineal, of 5 - 4 Cedar Sleepers for walks, 12,000 Pieces of cedar blocks for crossings , Hardware, etc. - The Board of the General Hospital will at once commence the erection of a laundry building, to cost \$3,000, and as soon as funds can be secured, work will be commenced on building the Women's hospital and operating rooms, plans for which are being prepared. The cost is placed at \$20,000.

VICTORIA, B. C. The Superintendent of the C. P. R. is said to have received authority to make preliminary arrangements for the construction of a railway from the main line at Revelstoke southward along Arrow lake to a point of junction with the line running from the Columbia river to Nelson, on Kootenay lake. It is also said to be the intention of the C. P. R. company to build another line from Revelstoke to the north end of Kootenay lake, between the proposed road, through Crow's Nest, Pass and the main line west of the Selkirk range.-Mr. J. E. Wright, manager of the Giant Powder Company's works at Cariboo Bay, states that new works will be crected to cost between \$15,000 and \$20,000.

OTTAWA, ONL-A petition has been presented to Parnament from the Temisconata Railway Company asking for power to extend its railway from its present termious at Edmonston to St. Leonard's, in New Brunswick Mr. Alfred Palmer, C. L., of London, who was employed by the Dominion Government and Sir Douglas Lox to make an investigation into the feasibility of the proposed submarine tunnel in the Northumberland straits, and the construction of the Prince Edward Island Railway, has submitted his report to the Government, in which he states that the scheme is quite feasible. - Mr. Pearson, engineer of the new Nova Scotia coal syndicate, was in the city recently to make application to the Ministers of Railways and canals for permission to erect extensive coal docks at the entrance of the Lachine canal at Montreal. The City Engineer has recommended to the Board of Works that steps be taken to have the roadway of Sparks street, between Canal street west and Bank street, asphalted outside the street railway tracks and the railway tracks paved with artificial stone, the total cost of the work being estimated at \$32,278 65, also that debentures be issued to cover the cost of the work.

Toronto, Ont. - Messis, Strickland & Symons, architects, will call for tenders for the erection of the new Union railroad depot in the course of a few days. - At a meeting of the Property Committee of the City Council held on Monday last, it was decided to instruct the architect to prepare plans and advertise for tenders for the completion of the work of erecting the new court house and city han Mr. I. Burke. architect, has been authorized by the City Couned to advertise for tenders for the completion of the addition to the Registry office. The cost will be about \$10,000 mg. Morgan Baldwin, Harbor Masier, will receive tenders until Hursday. the 16th inst., for the construction of street piling south of the breakwater at Queen's wharf authorities of the University of Toronto have granted a site on which to erect a residence for women students, and vigorous efforts are being

made to secure the necessary, funds to crect the building. A building permit has been granted to John Rankin, pair att. 2 story bk. dwellings, 110-112 Peter street, cost \$1,800.

#### FIRES.

The town hall at Port Hope, Ont., containing the market rooms, market clerk's residence, butcher stall and police cells was burned to the ground last week. Loss \$25,000; Insurance \$10,000. St. Judes Episcopal church at St. John N. B., has been destroyed by fire. Loss, \$10,000; msurance, \$2,280. The Government marine shipping office at the same place has also been destroyed. A. C. Vaughan's residence at Port Arthur, Ont., was destroyed by the last week. Loss, \$3,000; insurance on building, \$1,000. A grain elevator at Alexandria, Ont., owned by W. D. McLeod, and occupied by J. E. Mc-Gregor & Co., grain merchants, was totally consumed by fire on Saturday last. The building was insured for \$1,000 and the contents for \$4,500, which will only partially cover the loss. — The Menzie block at Amprior, Ont., containing Mr. Alexander Menzie's drug store, the telephone office, Mr. Campbell's grocery store, Dagenais clothing store and Russell's billiard room, was totally destroyed by fire last week. The total loss is placed at \$20,000. The Euc Glass Company's factory at Port Colborne, Ont., was totally destroyed by fire recently. Loss \$30,000; partially covered by insurance. On Sunday last fire at Charlottetown, P.L.L. destroyed the brick buildings on Queen street owned by Hugh Monaghan, and used for stationery and grocery stores. - The hardware store of Pringle & Clums, at Guelph, Ont., was completely destroyed by fire on Sunday morning last, together with the entire stock. The building was owned by Mr. Maurice O'Connor, and was insured for \$4,000.—The gents' furnishing store of E. J. Fallis, Yonge street, Toronto, was badly damaged by fire on Tuesday last. The building was owned by Messrs. Hughes Bros.—A building at Sarnia, Ont., known as the Pacific House and recently occupied by Mr. Maurice Joy as a hotel, was destroyed by fire a few days ago. It was owned by Capt. James Oag, and was fully insured.

## CONTRACTS AWARDED.

WINNIPEG, MAN. The contract for constructing the Mayfair avenue sewer has been awarded to Mr. W. F. Lee, at the price of \$2,144.

PORT STANLEY, ONT. - The promoters of the London & Port Stanley Railway have awarded the contract for building slip dock at this place to a Cleveland firm, the contract price being \$15,000.

TORONTO, ONL. -Messrs. Medler & Arnot have been awarded the contract for cribbing on the Esplanade under the boat houses at \$2.79 per cubic yard, and that for other Esplanade crib work at \$2.07 per cubic yard.

HAMILTON, ONT. - The Board of Works have accepted the following tenders for annual supplies: Spikes, Carpenter & Ramsey, \$2.27 per keg; cedar and tamarac blocks, D. L. Vanvlack, 37 cents per yard; lumber, R. Thompson & Co.

### WOODEN STAIRCASES THE SAFER.

Can wooden staircases really be the best and safest? This question arises when one reads the remarks reported to have been made by Superintendant Savage, Chief of the Manchester Fire Brigade, viz.: "A wooden staircase is the safest in the case of fire. A staircase of stone looks incombustible, but once it is attacked and one keystone 'flies,' as we say, with the heat, the whole thing will go by the board. Wood is the safest building material in the world, so far as fire s concerned. Build your theates, for instance, of wood coated with asbestos paint, and make everybody come upstairs to get out. Then you will never have a serious disaster. People cannot fall over each other, when they are climbing, and a wooden staircase

will hold together as long as a scrap of it is left." This opinion, which is in accord with those of Captain Shaw and other experienced firemen, will be read with surprise by many theatrical managers and Invention.

#### MAKING SOLDER 'N BARS.

There are various ways of making solder, and nearly every person you meet, who knows something on the subject, when asked "How do you make your sol der, what are the proportions, etc.?" replies invariably in a different tenor to what another of the frateinity has prescribed; so the better way, I think, is to hear what each has to say and then judge for oneself

as to the best plan to adopt.

Having been "through the mill" myself I have gained a little experience here and there which has proved beneficial to me. These little harts which hereafter appear are given with the best intentions and in no spirit of braggadocio, and I will en-deavor to make myself as explicit as I can, because they were found great obstacles or stumbling-blocks to the writer when he was paying his "imitiation fees." In all large towns there are stores over which hang three gilt balls, which are best designated as "pawn shops," in these places are bought for a mere song, old pewter cups, teaspoons, etc., which they are generally willing to dispose of at a small remunera-tion of, say 150 per cent. We will consider then that our pewter is obtained, and from the same source we have bought some old lead—be careful about selecting this; if possible pick out sheet metal and above all avoid old gas pipe, as it is not lead at all. It is a composition which is known in the trade as "compo" and is not suited for the manufacture of solder.

Cut both the metals into small pieces and first put your lead in the crock or ladle, as it melts slower than the pewter; when same begins to fuse put in the pewter and at the same time drop in a little resin or a piece of tallow candle, which will cause all impurities to tise to the surface. These impurities should be skimmed off and the molten metal stirred up to insure a thor ough amalgamation. The alloy should now be run out ready for use. There are The alloy should various ways of doing this; some pour it out on a flag-stone, others in angle iron, etc., but the better way is, I think, to make it in bars, which keeps the metal in compact form and is handler to manipulate

with than several modes that are adopted. It simply consists of a piece of sheet iron about the same thickness as two cross (xx) tin, which is corrugated in arcs or half-circles, as figures elucidate, and can be made to any size to s it the fancy. convenient size, however, is 12 inches wide by 18 inches long, which will be found large enough for several pounds of solder. Next make a framework of wood whose inside measure is scant the size of your iron plate after same is fluted, and in this frame secure at each end by means of three screws the sheet iron plate. Care should be taken to make frame fit snugly so that the solder will not run through, and, I might add for the inexperienced, that black iron must be used and not tin-plate, as molten alloy will adhere to the tin for "keeps". - American Artisam.

### USEFUL HINTS.

The following is a simple receipt for making antique oak: Taking a weak solution of sulphate of non-in-water, is used for a dark color, but requires a little practice, wiping the solution on a trial piece. A safer way for an amateur, is to use burnt umber in turpentine, when you can tone the shade to your taste.

Ordinarily it is best to remove all the material to be cut from surfaces on castiron pieces as a first operation. The reairon pieces as a first operation. son for this is, that when the metal is taken from such surfaces, the internal strains are partly relieved, and the piece will change in shape. When, therefore, holes having positive relations to each other and to other working points have not been made after the removal of masses or extended areas of metal, these holes will be found to have changed in their relations to each other after such removal in almost all such cases

Varmsh made with alcohol will get dull and spongy by the evaporation of the al-cohol, which leaves water in the varmsh, as all commercial alcohol contains water. Take thin sheet gelatine, says the Western Painter, cut it into strips, and put it in the varnish; it will absorb most of the water, and the varnish can be used clear and bright down to the last drop. The gelatine will become quite soft; it can be dried and used again.

### PUBLICATIONS.

We desire to acknowledge the recent of a bandsomely lithographed calendar from Mr. Alex. Bremner, dealer in contractors' supplies, Montreal.

## MUNIGIPAL DEPARTMENT.

#### THE CITY HALL OF AMERCIA.

A decided advance in the designing of municipal structures is seen in the present time as compared with a period only a few years back. Buildings like the city hall of Milwaukee, or the old city hall of St. Louis perfectly featureless eduices, whose domes only help to make the poverty of the design more apparent, and even semi-respectable buildings like the old city hal of Chicago, or pretentious things like that of Philadelphia, have long ceased to be possible. Architectural fiste has grown out of the rut represented by the first examples, while the errors of the the last one are too conspictions to permit any defence. The most successful of recent efforts are to be found in small halls rather than in large ones. Of these, the city halls of Albany, New York, and of Cambridge, Winchester, and North Easton, in Massachusetts, may well be taken as examples. The last named especially ranks among the most beautiful of Richardson's design, and shows how thoroughly admirable the municipal buildings of a small community may be made, and what an addition they may become to the architecture of the town. Very different as each of these four designs are, they have this common characteristic-a careful subordination of any evident effort. There is no straining for effect, no attempt to impress by some gigantic feature. They are calm, careful, scholarly buildings, each of which might well be taken as a model tor town halls in other communities of similar size and importance.

We have no city hall in any of the larger cities nearly as successful as these. It may not be that our architects are incapable of handling the more complicated problems suggested in large buildings, for they are solving other questions quite as complex and difficult every day. Doubt-less the simplicity of the plan of the small town has much to do with the success of the designs. There is no need to house the designs. There is no need to house innumerable bureaus, with multitudinous subdivisions for clerks. In the smaller towns an office for the mayor or chief executive and his clerks, with a room for the aldermen or council, and one or two committee rooms, suffice for all necessary purposes. Even when the court-rooms are included, the complexity of the edifice is not greatly increased. To these, in many instances, is added a room for public meetings, the town hall pure and simple, which may readily be made the most conspicuous feature of the design, and thus help in the making of a successful building rather than hinder it.

This latter feature is, of course, quite unknown in the halls of large cities, but the difficulties of the problem are not lessened by its absence. One of the most difficult features presented in large cities is the building of a hall which will continue to be large enough for municipal needs for a term of years. Philadelphia has undertaken to solve the problem by building a structure much too large for current necessities. Brooklyn has sought relief by erecting a series of additional

\*A paper by Mr. Barr Ferree, published in the Engintering Magazine.

buildings, a group not without some picturesque variety, but unfortunately wanting in individual ment. Boston must it once build an entirely new hall, or enlarge its present building to such an extent as to be practically a new edifice. New York has seen its municipal departments overflowing into a dozen outside structures at the cost of an enormous tent-roll, and still is undetermined in what manner to find (ehef. In that city, however, the question turns more upon location than upon ways and means, though it is difficult to understand why, with the ample available ground in City Hall Park—which is now chiefly appreciated by an endless army of loafers there should be any hesitancy on this score

The simple resolution to build will not solve the problem in the metropolis or elsewhere. Notwithstanding the lack of success which has attained many attempts in municipal architecture, the pubhe has not outgrown the idea that the city hall must be an impressive structure. And public opinion is quite right. But what a thing should be is often very different from what it is. Our cities are so rapidly becoming examples of commercial architecture that it seems not unreasonable to ask that in one type of building at least some monumental feeling be permitted, into which the ornamental shall be allowed to enter to a greater extent then into a business building. But the large buildings have failed so often to fulfil this public feeling that it would seem to be better, in the end, to treat our city buildings as business buildings, which, in very truth, they are. This does not mean that a city half should he a gigantic office building, like the Masonic Temple of Chicago, or the Pro-duce Exchange of New York, or the Ames Building of Boston, admirable examples of commercial structures as they are; but the problem should be attacked in a busi ness manner, treated in a common-sense style, and the result in a measure left to take care of itself. It is well enough to have a dome, if the style of architecture permits it, or a tower, if that be more in keeping with design, but neither of these elements should be made the fundamental part of the whole, nor should the effort be simply to have a great dome or a lofty tower regardless of everything else. Instead of being the first consideration such things should be the last. The greatest done will not render any building more useful, nor will its utility be added to by the loftiest or most beautiful tower. Like the loftiest or most beautiful tower. Like every modern structure the city hall has a use, as well determined and as evident as that of an office building or a hotel. No one should think of putting a dome on an office building for simple external grandur, and in this utilitarian age towers are filled with rooms and made as useful as the lower portions of the structures they adorn.

## ( lote Continued )

BURNT CLAY FOR ROADS.

The Davenport Democrat, published in a city whose brick paying has been introduced extensively, advocates burnt clay for street improvement. It says. Gumbo, or burnt clay, such as railroads are using for ballast, is the material suggested, and competent engineers, and roadmakers beheve that it will make a road equal, if not superior, to macadam or gravel at much

less expense.

"This burnt clay ballast is peculiar in its properties. There is no other material like it, and its distinguishing characteristics." are such as to make its friends believe it

is the very thing for a road.
"It is made by heaping up long rows of clay with soft coal, much like the coke ovens with which travelers through Pennsylvania are familiar. Any kind of clay that is free from sand will do. The rows are fired and tended so that they burn in the proper manner and the result, when the fires go out, is a lot of burnt clay. It is red in color, about like ordinary brick. It is porous and highly absorbent. It is as hard as anything that is of the earth or earthy. It is easily settled into a firm mass without being packed as stone and other materials are. It will not support MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

vegetation or allow water to stand upon it. It does not wear out or deteriorate. It can be worked in midwinter, no matter how hard other materials are compacted by the frost, as well as at this season of the year. It is springly, to a certain ex-tent, and resists crush to a remarkable degree. Ewelve inches of this material placed on top of a well-drained dut foun placed on top of a well-drained dut four dation, an engineer says, will make an excellent road, which will settle evenly under traffic. If it does not, holes can be readily filled from a stock of the clay as fast as they appear and the surface castly preserved. The clay shows far less tendency to cut into ruts than gravel or macadam. It is springly enough to go down in a larger, area if it is going down in a larger, area if it is going down. down in a larger area if it is going down at all, and to resume its place after the load has passed. No water, with a little attention to drainage, will ever be found

on it.
"The cost of constructing a road out of this material, it is estimated, would not exceed \$1,200 per mile and might possibly fall even below that figure. The gumbo can be manufactured in almost any local ity, so that the cost of transporation would be very small.

## DEBENTURES WANTED.

Municipalities issuing debentures, no matter for what irpose, will find a ready purchaser by applying to G. A. STIMSON, 9 Toronto Street, Toronto. N.B.-Money to loan at lowest rates on first mortgage

## Canada Pipe Foundry,

HAMILTON, ONTARIO.

ALEX. GARTSHORE, - Proprietor. Manufacturer of

CAST IRON WATER, CAS AND SEWER PIPES.

- ALSO -

Special Castings of every description.

CAPACITY: 50 TONS PER DAY.

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

Municipal officers, contractors and others, are requested to mention the CONTRACT RECORD when corresponding with advertisers.

## ASPHALT PAYING

We are prepared to do first-class work on WALKS, FLOORS, CELLAR BOTTOMS, &c., with ROCK ASPHALT, which is conceded to be the best for this class of work.

## H. WILLIAMS & CO.

Roofers and Pariors,

4 Adelaide Street East, - TORONTO.

## THOROLD CEMENT

WELLAND CANAL ENLARGEMENT. RESIDENT ENGINEER'S OFFICE WELLAND, April 17th, 1884.

IOHN BATTLE, ESQ. Thorold

lons Battle, Esq. Thorold

Dear Sir, "Yours of vesterday, relative to Thorold Hydraulic Cement, is received. In reply, lobeg to say that my tests of the Thorold Hydraulic Cement have extended over a period of twenty eight years, and have been on a large-cale, as exemplated in the locks, bridges, culverts and other misonry on the Welland Canal and Welland R roway and that the record which has been my artisty satisfactory, is to be found in examination of the structures. The necessary terring down of misonry and concrete during the Welland Canal Infragement, has afforded abundant evidence of the reliability of the Thorold Hydraulic Cement, both in masoniv and concrete, and above and under water. I desire no better coment for the class of work referred to I am, dear, or, yours truly. I am, dear sir, yours truly.

W. G. IHOMPSON, Resident Engineer.

ISAAC USHER & SON, THOROLD, ONT.

Manufacturers of

## QUEENSTON CEMENT

Proved by Government tests to be the best Cana-dian natural cement. Write for prices, &c.



NOTE.—Only pure SCOTCH unglared Fire Clay Linings will be kept in stock; any other quality is worthless for resisting heat. Correspondence invited. Quotations promptly furnished.

Office: 31 Wellington St., Montreal.



For SEWERS, CULVERTS; also WATER PIPES, INVERTS, VENTS, &C.
Goods shipped by water or rail to all points.

The Thos. Nightingale Pressed Brick Co. 67 Adelalde St. East, Toronto. Telephone 449. Works at Port Credit.

## Ontario Water Meter

Meter Supports, Dial Extensions, Fixture Locks, Water Cart Registers, Strainers, Coupling Seals and Reservoir Indicators.

Send for Price Lists and Testimonials. Our Meters are adopted and in use in over 500 cities and towns in Canada and the United States. Highly endorsed by leading Engineers. A guarantee for five years given with all Meters. All information furnished on application to

A. C. WINTON, Secretary-Treas.

OFFICE: Canada Permanent Buildings, No. 20 Toronto Street, Toronto, Ont.

FOR CELLARS, FLOORS, STABLES, ETC.

A. CARDNER & CO., - ROOM 17, YONGE STREET ARCADE, TORONTO. TELEPHONE 2147,

## A. & E. LOIGNON,

Bridge and Structural Iron Work. Steel Beams kept in stock.

Plans, Estimates and Specifications.

WORKS ST COLUMNA ST CANAL SIDE. MONTREAL.

UNICIPAL **OFFICIALS** 

should see to at that in the erection of town and cay PURLO IN ILD INGS, the installation of water works point etc. the obvious go set

MINERAL WOOL



are made use of for deadening sound in floors and partitions and tion of heat and cold, freprocting etc., also SECTIONAL MINERAL WOOL COVERING for steam pipes, boilers exposed water pipes, etc.

Montreal Agent
OBO, A. COWAN,
Room 23, 201 James Street,

Canadian Mineral Wool Co., Limited.
122 Bay Street, TORONTG.

### HAMILTON AND SEWER PIPE CO.

SEWERS WATER PIPES.

**Fire Brick Sewers** Write for Discounts.

CULVERTS,

HEAD OFFICE AND FACTORY, HAMILTON, CANADA.

## McCall Pipe Foundry Company,

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



Manufacturers of Salt-Glazed, Vitrified

# SEWER

Double Strength Railway Culvert Pipes, Inverts, Vents,

AND ALL KINDS OF FIRE CLAY GOODS.

Architectural Ironwork a Specialty.

Pleased to furnish estimates.

## THE J. C. EDWARDS

## **Vitrified Terra Metallic Paving Brick**

FOR

STABLE, COACH HOUSE, BOLLER HOUSE, BREWERY FLOORS AND YARDS Also all places of heavy and light traffic.

The only Genuine Vitrified Brick.

The best in the world for Sidewalks & Street Grossings

FROST-PROOF, WATER-PROOF, TIME-PROOF

GUINDERIOUS PRICES ON APPLICATION.

AGENT FOR CANADA. Room 64, Temple Building, Montreal

## CENTRAL BRIDGE AND - -- - ENGINEERING COMPANY,

LIMITED) Peterborough, Ont.

WM. H. LAW, Manager and Engineer, MANUFACTURER OF

## RAILWAY AND HIGHWAY BRIDGES

Viaducts, Piers, Roofs, Turntables and Girders in Steel and Iron.

Tension members forged without welds. Riveting done by hydraulic or compressed air machines. Specialties: Good workmanship and strict adherence to specifications and drawings.

CAPACITY: 2,000 TONS PER ANNUM.

## ST. GEORGE'S SECTIONAL CAST IRON STREET GULLEY

### USED EVERYWHERE.



## LEWIS SKAIFE

NEW YORK LIFE BUILDING. MONTREAL.

## Prices of Building Materials.

сомнен.

CAR OR CARGO LOTS.

	Toronto.		Montreal.		
	\$ 5	;	\$	S	
1 1 to 2 clear picks, Am. ins.	.30 00€3	3 00	40 000	£45 00	
1 to 2 three uppers, Ain ins	. 3	7 00	40 ∞	45 00	
tk to 2, pickings, Amins		7 ∞	27 ∞	30 00	
3 inch clear	;		23 20	60 00	
i x 10 and 12 dressing an			-0 -		
t x 10 and 12 mill run		000	18 co	20 00	
1 x 10 and 12 dressing		4 00 6 00		16 00	
1 x 10 and 12 common		300	8 ∞	10.00	
z x 10 and 12 spruce culls		100	10 00	11 00	
1 x 10 and 12 maple culls	•	900		900	
z inch clear and picks	28 oo 3	000	33 ∞	35 00	
z inch dressing and better	18 00 2	000	15 ∞	30 00	
z inch siding, mill run	-14 00 1	600	24 00	1600	
z inch siding, common	.11 00 1	2 O 2	13 00	14 00	
z inch siding, ship culls		3 00	10 00	11 00	
z inch siding, mill culls		) တ	8 ∞	900	
Cull scantling	. 800	g co	800	900	
1% and thicker cutting up					
plank	,7200 2	500	33 OO	3i 00	
z inch strips, 4 in. to 8 in. mil					
inn		00	14 00	1500	
1 inch strips, common	.11 00 1	2 00	11 00	12 00	
114 inch flooring		500	14 00	15 00	
XXX shingles, sawn, per h		0 00	14 00	1600	
16 in	* 2 20	2 35	2 70	2 35	
XX shingles, sawn	. 1 20	1 35	1 30	1 35	
			. 3-	• 33	
D'UQ DRAY	TATIONS	•			
Mill cull boards and scantling	3 1	000		1000	
Shipping cull boards, pro	•				
miscuouswidths		300		1300	
Shipping cull boards, stock	S 1	6∞		16 ∞	
Hemlock scantling and jois	1				
up to 16 ft	11 00 1	2 00		10 00	
Hemlock scantling and Jois	<b>.</b>				
up to 18 ft	12 00 1	3 00	1200	13 00	
up to so ft		4 00	13 ∞	14 00	
19 19 18 1		4 CO 5 ○○		14 00	
11 11 20		6∞		16 ∞	
1 11 221		7 00		17 00	
11 11 24 1		900		1000	
11 11 261		200		21 00	
** 281	ી 2	3 00		23 00	
10 11 30	[t 2	500		25 ∞	
11 11 321	t 2;	7 00		2700	
		9 50		29 50	
" 36t		1 00		31 00	
381		3 00		33 co	
441	1 3	6∞		36 O	

Comment and the	Toron				
Cutting up planks, 136 thicker, dry Cutting up planks, 134 thicker, board Celor for black reasons	and . 25 00 and	<b>26 00</b>	75 ·X·	26 ∞	
		3 60	18 00	22 00 5 00	
Cedar for Kerbing, 4 x per M	14,	14 00		14 00	ļ
1 % in flooring, dressed, F 1 % inch flooring, rough, ll 2	M. 18 00	27 00	28 00 18 00	13 00 11 00	
おと # dressed, F 1気 # undressed, B 1気 # dressed,	M.18 00	30 00 19 (0 23 00	27 00 18 ∞ 18 00	30 00 19 00 22 0	
ik a miliesed	** ~	35 00	13 00 22 00	15 00 35 ∞	•
Beaded sheeting, diessed. Clapboarding, diessed. XXX sawn shingles, per 18 in	M 265	2 75		310	
Red oak	10 00	2 20 2 90 40 00	2000 2010	2 20 2 90 40 00	
White	35 ∞	45 00 20 00	35 ∞ 18 ∞	41 00 20 00	
Black ash, No. 1 and 2	18 00	70 00 #5 00 30 00	70 ∞ 30 ∞ 18 ∞	35 ∞ 30 ∞	
Dressing stocks	16 00 N	22 00 40 00 50 00	26 ∞	22 00 40 00 50 00	(
Common Walling	₩—₩ M	7 50		6∞	1
Deserved Dutale Day	850 	900	8 50	8 50 9 00	1
Plain brick, f. o. b. at Mil	ton	18 00 14 00			,
Hard Building		8 00			Š
Roof Tiles	3∞ 	10 00 24 00			3
First quality, f.o.b. at Car	mp•	15 ∞			3
bellville and quality, f.o.b		14 00 11 00		25 00 20 00 17 00	4
		10 00 24 00	3∞	26 ∞	3
Plain brick, "A" fo b, Don	- • •	18 00 16 00 1j 00		25 00 27 00 18 00	
Ornamental, per 100	3 00	24 00	3 ∞	30 00 60 00	
Plain brick, f.o.b. Port Cr. 2nd quality 3rd		13 00 13 00			:
Hard Building Ornamental, per 100	3∞	8 ∞ 10 0	•		Ç
Per Load of 11/2 Cubic Ya	ND. tds ONE.	1 25		1 25	,
Common Rubble, per tor delivered	se,	14 00		14 00	í
delivered	ń.	18 ou 50		00 81 03	i 1
Mencton, N. B., per of the Co.b	es, .u.	1 00			١
Freestone, per cu. ft., f.o	.b.	95 90	65	75	į
New York Blue Stone Granite (Stanstead) Ashlar in. to 12 in., rise 9 in., per	. 6	•	.,	1 05	1
Most Freestone			70 75	80 80	ì
Credit Valley Brown Cou	1300 Na∗				Ç
ing, per superficial yard Credit Valley Brown Dime sion, per cubic foot	2 50 	3∞		3 00	1
Credit Valley Grey Coursing per superficial yard Credit Valley Grey Dime	150	2 00		2 15	•
sion, per cubic foot Credit Valley Grey Coursin per superficial yard Credit Valley Grey Dime sion, per cubic foot MadocRubile, delivered, p	er	75		80	1
Madoc dimension floating,	, f,	14 50 32	14 ∞	14 50	ı
Promiscuous forh	ue	60			7 7 8 1 1
No. 1 Blue Dimension No. 1 Buff Promiscuous No. 1 Buff Dimension The above prices mea		65 80 85			î
a in sawed flagging person	n.	11.			Ą
23 11 11 11 11 11 11 11 11 11 11 11 11 11		13½ 16½ 22			0
55 " " " " " " " " " " " " " " " " " "	···	27 1/2 33			1
prices. Quebec and Vermont rougranite for building pr					AH CO
poses, per c.ft. f.o.b. quar For ornamental work, cu. Granite paying blocks, 8 in.	ur• 73 33 ft. 35	1 50			H
Granite paving blocks, 8 in. 12 in. x 6 in. x 4 ½ in., per Granite curbing stone, 6 in	<b>71</b>	50 00			c
20 in., per lineal foot	TE,	70			,
Rocfing (V square).  red purple	••	24 CO 9 OO		16 00 8 co	I
unfading gro	en	8 50 7 50 22 00		6 00 7 50	1
Terra Cotta Tile, per sq Ornamental Black Slate Ro ing	••	7 50			N O I
White lead, Can., per 100 l	6 50	6 50	6 00 7 50	6 25 8 00	S
" venetian, per 100 lbs	160	634 1 75 1 00	160	75 700	ş
Vellow othe	5	10	10 4 15	13 6 20	Į.
Green, chrome	7	13	•3	30 13	(

	ronto. Ro	ontreal.	Toro	nto.	Montreal.
Black, lamp	14 24	12 /5	ad to sel cold cut, not polished		
Blue, oltramarine	15 21	12 18	or bluid, per 100 lbs	90	90
	65 63	63 64	FINE BLURD NAM	.5.	-
	68 71	66 63	ad, per acolbs	1 50	1.5
	78 84	75 75	2d, " "	7 Ö 2	2 (0
White the state of	3}á 3}á 75 100	23, 23, (v) 71	CASING AND INX, FLOURING, SHOOL	CAND	XOB DOORARDT
	75 100 90 125	0 75	NAILS.		
	534 \$	614 8	rad to 30d, per 100 lbs	50	50
Sienna, burnt	15 20	12 15	tod, " "	60	ć o
	12	12 15	eu anu çu,	75	75
CEMENT, LIM	· • • • •		ca ma ya,	90	90
			40 to 50	1 10	1 10
Cement, Portland, per bbl. 26			3d, " "	1 50	1 30
" Thorold, " Queenston, "	1.5	•	FINISHING NAILS	i.	
" Napanee, "	1 %		<ol> <li>inch, per 100 lbs.</li> </ol>	85	85
ii Hull,	1 5'		3% to 3% " " " "	1 00	100
" Ontario "	1 10		3 (0 3 %	3 1.	1 15
" German "		65 285	179 10 174	1 35	1 35
ıı London		45 293	;× :: :: ::	3 75	1 75
ii Newcastle "		35 2 50	SLATING NAILS	2 25	2 35
u Helgian "		3 240	5d, per 100 lbs	85	85
u Ca adian "	2	25 2 30	40. 11 11	86	žš
" Norman		75	3d, ''	1 25	1 25
i anan		10 475	ad, " "	1 75	1
" Superfine " Keene's Coarse "Whites"		50 7 00	COMMON HARREL NA	als.	
Calcined plaster, per barrel.		50 4 75	r inch, per to lbs	1 50	1 50
Fire Bricks, Newcastle,per M		50 1 70 0 24 00	34 11 11 11	1 75	75
" Scotch		00 35 60	32 " " " " " " " " " " " " " " " " " " "	2 25	3 32
Lime, Per Barrel, Grey	40	00 ,500	CLINCH NAILS.		_
" White	55		inch, per 10. lls.	85	85
Plaster, Calcined, N. B	2 00		all and all " " "	1 00	100
" N. S	3 00		a and alf	1.15	1 15
Hair, Plasterers', per bag 6	lu too		11% and 11% " " "	1 35	1 35
HARDWAI	4 JC		1%	3 00	
Cut nails, 5 d & 6 d, per keg	3 40	2 25	1 " " "	<b>3</b> (0	2 50
Steel " " "	2 50	2 35	SHARP AND PLAT PRESSE		.S.
CUT NAILS, FENCE AND			inch, per 100 lbs.	1 35	1 35
40d, hot cut, per to like	5	5	273 11114 274	1 50	1 50
30d, " " " " " " " " " " " " " " " " " " "	10	10	2 210 32	1 65	1 65
20d, 16d and 12d, hot cut, per			ik and ik " " "	1 85	1 85
100 lbs	15	15	174 " " " "	3 00	3 50
10d, ho. cut, per 100 lbs	20	20	Structu <b>ra</b> l Iro	•	3.0
64, 94, 41	25	25	Stee, beams, per 100 lbs		<b>.</b> .
6d, 7d,	40 60	40 (0	" channels, "	275	2 50 2 60
3d, " " "	100	100	"angles, "	2 0	2 30
ad, " " "	1 50	150	" tees, "	280	2 (5
4d to 5d cold cut, not polished		. ,,	" plates, "	2 55	2 35
or blued, per really	50	50	Sheared steel bridge plate	2 25	2 35
13170355	<b>60</b>	4 75 4	TENOTORIA	730	
1 1 1 1 1 1 7 7	177	$\Lambda$ $\Pi$	/ERTISEMEN	1.0	
	, , ,	~\			

in the "Canadian Architect and Byllder."

Architects.	Church and School
Ontario Directory 111 Quebec Directory . vi	Furniture.
Architectural Sculp	Can. Office & School
tors and Carrers.	Furniture Co
Carnovsky, B. H. IV Hicks, W. Stivens xiv Hotbrook & Molling	Cements.
Hicks, W. Stivens xiv	Manage Ma Co
ton i	Adamant Mfg Co. vii Bremner, Alex. 11 Currie&Co, W.&F P. xvii Myde & Co., F. xvii M.NaBy & Co., Wm.xii Maguue, Wm. i Morris, E. D. i Morrison & Co., T A xvii Rathbun Co. vii
ton i Turner, Frederic xviii Wagner Zeidler & Coxviii	Currie&Co, W.&F P. xvii
Wagner Zeidler & Coxviii	Hyde & Co., F xvii
Architectural Iron-	McNally & Co., Wm.xii
Architectural Iron- Work.	Morris, E. D.
Bostwick, Geo. F vii B. Greening Wire Coxiv	Morrison & Co., T A xvii
B. Greening Wire Coxiv	Rathbun Co vii
Dennis R. xi	Contractors and
Meadows, Geo.B xiv	Ruilders.
Dennis R xi Dominion Bridge Co. I Meadows, Geo.B xiv Whitfield, John v	Davidson & Kelly I Dick, James, G V Hood & Co., C. I Roberts, Wm. I Turner & Co., G. W. V
Art Woodwork.	Dick, James, sr v
Carnovsky R H IV	Hood & Co., C 1
Carnovsky, B. H IV Wagner, Zeid er & Coxviii	Roberts, Wm I
Alabastine	Turner & Ca, O. W V
The Alabastine Co.,	Contractors' Plant
Paris, Limited vii	and Machinery
Tour Lake & Dunnand 1	Copland & Co I Rowe, Geo xvii
Desmitte Descend	NOAC, 000 XIII
Brick Co iv	Gut Stone Con-
Don Valley Pressed	tractors.
Brick Works xi	Curtis & Rowe I
Morris, E. D. IV	Oakley & Holmes I
Beamsville Pressed Brick Co iv Don Valley Pressed Brick Works xi Morris, E. D iv Morrison & Co, T A xviii Toronto Pressed Brick & Ferra Cotta Co. iii	Carley te Homes
& Terra Cotta Co iii	Chimney Topping.
The Ont. Terra Cotta	remner, Alex 11 urrie&Co., W &F. Pxvii
Brick & Sewer Pipe Co vn	urrie&Co.,W &F.Pxvii
Builders' Supplies. Adamant Mfg Co. vin Brenner, Alex 111 Copland & Co 11 Corpland & Co 14 Currie & Co. W & F P xviii Hyde & Co. F xviii Maguire, Wm iv Morris, E. D iv McNally & Co xuii Morrison & Co., T. A xviii Rathbun Co xviii Rowe, Geo xviii Vokes, M & J L xi Bailer Corpering.	Drain Pipe
Reamner Alex	Bremner, Alex
Copland & Co 11	Curne &Co., W&F.P.xiv
Currie & Co.W & F P xviii	Sever Pine Co xi
Hyde & Co., F xvin	Sewer Pipe Co xii McNally & C., W. xii Maguire, Wm ii
Marris E. D iv	Maguire, Wm is The Ont. Terra Cotta. & Pressed Brick Co. vi
McNally & Coxiii	S. Person I. Reick Co. vi
Morrison & Co., T Axviii	&Pressed Brick Co. vi The Colman - Hamil- ton Co
Rathbun Covin	ton Co
Vokes, M & I I. xi	Vokes, M & JL x
Boiler Covering.	Dumb Walters
Boiler Covering. Can. Mineral Wool Coxiv	King & Son, Warden av
Building Stone	•
Dealers.	Elevatora Fensim, John 1 Miller Bros. 8 Toms. 1
Carroll, Vick & Co. 1V Canadian Granite Co. 11	Fensom, John I
Laurie, John 11	Otis Brothers & Co
Longford Unarry and	this Brothers & Co Leitch & Turnbull
Longford Quarry and Lime Co viii	Elerator Motors
Moir Granite Co i	
Moir Granite Co i Morrison & Co., TA xviii Owen Sound Stone Co IV	Ball Electric Co IV
Potsdam Red Sandstone	Engravers.
Samuel & Sons, Those ix	Can. Photo-Eng Bu-
Samuel & Sons, Those ix	reau i
Builders' Hard- ware,	Fire Brick and Clay
Aikenhead Hardware	Parte Drick and Cas
Co 24	Colman-Hamilton Co.
Rice Lewis & Son IV Vokes, M & J L xi	Currie& Co.W &F P xvii
Vokes, M & J L xi	Hyde & Co., F. xvii
Creosote Stains Cabot, Samuel v	Bremner, Alex
Caccing Samueli, V	414 VIII 474 174

Grates and Tiles.
Bostwick, G. F. ... vii
Holbrook&Mollington i
Parkes, Reekie & Co. vi
Rice Lewis & Son. ... IV

Galvanized Iron
Works.
Douglas & Plunkett.xviii
Hedges & Lankin xviii
Tucker & Dillon... xviii

Tucker & Dillon... xviii

Heating.
Burroughes & Co. W. J. xiii
Clare liros. & Co. X. Y. Garth. & Co. E. & C. xiv
Garth. & Co. E. & C. xiv
Garth. & Co. E. & C. xiv
Garth. & Co. E. A. Miller Bros. & Tons... ii
Toronto Radiator Mfg
Co. X. Xvii

Iron Pipe.
King & Son, Warden...xvi

Laundry Tubs

Laundry Tubs Forsyth, Robi

Currie & Co, W & F P xvii Hyde & Co, F. xviii Longford Quarry and Lime Co. viii Morris, E. D. iv

Legal.
Denton, Dods & Denton. v Metallic Lath.

B. Greening Wire Co. xiv
Metallic Roofing Co... vi

Mortar Colors and Shingle Stains. Maguire, Wm. ... iv
Muirhead, Andrew. v
Toronto Pressed Brick
Co. ... in
Ornamental Plas-

### Alluisi & Son, D ... vi
Baker, J. D ... 11
Hynes, W J ... 1
Wright, Jax ... 11 Paints & Varnishes. Muirhead, Andrew... v

Paving Materials
McArthur & Co., Alex iv
Pipe Covering
Can Mineral Wool Coxix

Plumbing Supplies 

Roofing Materials

McArthur & Co., Alex iv
Merchant & Co., ix
Metallic Roofing Co. vi

Metallic Roofing Covi Honfers

Duthie & Sons. G. 11
Forbes, Duncan 11
Metallic Roofing Covi
Hutson, W. D. 11
Rennie & Son, R. 11
Reggin, J. 11
Toronto Roofing Covi
Williams & Cov. H. 11

Shingle Stains
Cabot, Samuel..... v Stiding Blinds

Castle & Son v Elliott & Son v Elliott & Son v Giton Bros. v Giton Bros. Starned Glass Works. v Grimson, G. & J. E. v Hobbs Hardware Co. v Imperial Stained Glass Co. v Longhurst & Co. H. v McCaudand & Son. v Spence & Son, J. C. v Terra Cotta

Spence & Son, J. C... v
Terra Cotta
Toronto Pressed Brick
& Terra Cotta Co... iii
The Ont. Terra Cotta
& Brick Co... vii
The Rasitan Hollow &
Porous Brick Co... viii