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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.

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AUGUST 13, 1896

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Advertising Rates on application.

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TENDERS WANTED

Separate Tenders will be received up to NOON, TUESDAY, THE 18TH INST., for the

Enlargement of a Brick Church

in Parkdale. Plans and specifications can be seen at the office of Mr. E. Terry, 31 to 41 George St., Toronto, on and after Tuesday, the 11th inst. Tenders to be addressed to Mr. Chas. Sneath, 161 Somerset Avenue, Toronto. The lowest of any tender not necessarily accepted.

Notice to Contractors

Tenders for the building, erection and complete finishing of the Catholic Church, Deseronto, will be received up to noon,

Saturday, August 22nd, 1896.

Plans and specifications may be seen at the Tribune office, Deseronto, or at the office of Thos. Hanley, architect, Belleville.

The lowest of any tender not necessarily accepted. All tenders to be addressed to

REV. FATHER HOGAN, P. P.
Napance, Ont.

FOR SALE

The proprietors of the Brockville Pressed Brick & Tile Company's Works, situated at Brockville, Ont., having their large business interests to look after, offer for sale their entire plant and property, consisting of 6 acres of land, clay suitable for making red and buff brick, land tile and roofing tile, two up-draft kilns, capacity 300,000 each, engine, boiler, one Simpson four-mould brick press, one ornamental brick press, one Williams machine, elevators, shafting, pulleys, bearings, &c., &c., also trucks and cars, a 100-horsepower engine house, &c., together with 600 cords of wood and about 600,000 brick. Plant situated convenient for shipping by G. T. and C. P. Railway, also by water. The plant is in good running order and can be now seen in operation. For further information apply to

THE BROCKVILLE PRESSED BRICK CO.
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CONTRACTS OPEN.

SMITH'S FALLS, ONT.—It is proposed to start a rubber factory here.

TILBURY, ONT.—Fred. Lee contemplates erecting a new building.

DIGBY, N. S.—Chas. A. Abbott will build a residence on Queen street.

WOODVILLE, ONT.—A. J. Smith will shortly erect a block of brick stores.

POTTERSBURO, ONT.—A new Presbyterian church will be built here, to cost \$1,500.

LISTOWEL, ONT.—The Listowel Gas Company will probably put in an electric plant.

REVELSTOKE, B. C.—The Kootenay Lumber Co. will erect a saw mill at Lardeau.

GRETNA, MAN.—R. P. Roblin, of Winnipeg, has decided to build a new elevator at this place.

ST. MARY'S ONT.—Mr. Moore, C. E., of London, is preparing plans for a water-works system for this town.

HUNTSVILLE, ONT. W. A. McGregor is endeavoring to interest capitalists in the building of a large summer hotel here.

OWEN SOUND, ONT.—The Owen Sound Electric Light Company contemplates enlarging their plant to supply power.

WINDSOR, ONT.—A deputation last week interviewed the G. T. R. authorities regarding a site for the new Y. M. C. A. building.

HULL, QUE.—F. Hibbard, C. E., has been instructed to prepare an estimate of the cost of extending the waterworks on the streets now without the service.

HALIFAX, N. S.—George Wright will erect eight dwellings and two business structures in this city, the latter to have marble fronts. J. C. Dumaresq is architect.

FERGUS, ONT.—Proposals are invited by Wm. Ross, clerk, until the 20th inst. for the purchase of \$2,000 of public park debentures bearing interest at five per cent. per annum.

CASSEL, ONT.—L. Kaufman, reeve of East Zorra, will receive proposals until the 14th inst. for the construction of the Petch drain in the Township of East Zorra. Plans may be seen at the residence of the reeve.

DUNDAS, ONT.—The Township Council of Winchester has instructed Mr. George L. Brown, C. E., to prepare plans and estimates for construction of municipal drains.—Peter Brass, of Hamilton, has been instructed to prepare plans for new outhouses for the school.

ST. JOHN, N. B.—Fowler & Calhoun will shortly commence the erection of a corn mill, 160 x 60 feet, and 37 feet high; an elevator 40 feet square and 70 feet high, a boiler and engine house 100 x 40 feet; a warehouse 100 x 45 feet; and a cooper shop with a plant to employ about

to coopers. The plans provide for adding a plant for flour milling purposes.

WINNIPEG, MAN.—The Martin, Bole Wynne Company have decided to put in the foundation of their new warehouse this fall. The building proper will be erected next year.—Walter Chesterton, architect, has in hand improvements to a terrace on Notre Dame street.

PORTAGE LA PRAIRIE, MAN.—Steps are to be taken to improve the sanitary condition of the town.—Mr. Simonds, C. E., has been sent out to report on the project of a flume to deliver water from the river into the slough. It is thought that the flume would have to be carried some four or five miles up the Assiniboine river. It has also been suggested that a large pumping station be established on the banks of the river to pump the water needed.

SHERBROOKE, QUE.—The Electric Railway Company propose to commence the construction of the road at an early date.—A special committee of the city council have reported to the council recommending that the city undertake to provide a water supply. Their report was approved with a view of acquiring the existing system and improving it or providing a new and independent system at the expiration of the contract three years hence.—A new building will probably be erected by the Talbot Carpet Company.

QUEBEC, QUE.—H. Staveley, architect, has drawn plans for the new depot of the Quebec, Montmorency and Charlevoix railway.—Building permits have been granted as follows: One house for Mde. Vve. Jos. Deblais, P. Boulanger, contractor. One house on St. Francois street, for M. Turcotte; contractor, J. B. Turcotte. Montmorency & Charlevoix railway; contractor, A. Fackney. One house on Du Pont street for J. Laberge; contractor, A. Laberge.—Mr. LeCardonnel, the Parisian architect charged with the erection of the Champlain monument, has written to Mr. Berlinguet for estimates of the cost of foundations and granite work for the monument.

HAMILTON, ONT.—Steps are being taken by the citizens to secure the erection of a school of domestic science. It is proposed to erect a building to cost \$35,000. In regard to the proposed high level bridge at the Desjardins canal, the Toronto, Hamilton Buffalo Railway Company have made a proposition that if the city would build the approaches for a high level bridge the company would put the bridge up.—Building permits have been granted as follows: James Balfour, two-storey brick dwelling on George street for J. C. Campbell, cost \$3,000; Charles Mills, alterations to store on James street north, for the Sunson estate, cost \$800, W. & W. Stewart, coal house and boilers at the city hospital, cost \$2,400. It is reported that the C. P. R. will build a line of railway from Brantford to Woodstock. An extension from Welland to Niagara

Falls is also mooted.—Mr. Barrow, city engineer, will complete the plans this week for the interception of sewage, and work will be commenced as soon as a site is secured.

LEVIS, QUE.—The King & Son Shoe Manufacturing Company are about constructing a wing to their present factory.

VICTORIA, B. C.—Tenders for the construction of a waste water course and diversion dam, on the south fork of Quesnelle Lake, Cariboo, are asked by C. T. Dupont until the 20th inst.

PETERBORO', ONT.—A surveying party has returned from the completion of their surveys on the Trent Valley Canal from Chisholm's Rapids to Trenton. They are now preparing plans at the canal office here.

FREDERICTON, N. B.—The plans for the new wing to be added to Victoria hospital have been received from R. C. John Dunn, architect, of St. John. The addition will be 60x33 feet, and two stories high.

FORT WILLIAM, ONT.—J. G. King, of Marks, King & Co., Port Arthur, has purchased the vacant lots between the Albion hotel and May street, and will erect a large solid brick building, suitable for banking and other purposes.

CAMPBELLTON, N. B.—Tenders for erecting a brick and stone school building in this town are invited by D. Murray, M. D., until the 15th inst. Plans may be seen by applying to Mr. A. McG. McDonald, Campbellton, N. B., or J. C. Dumaresq, architect, Halifax.

THOROLD, ONT.—It is stated that the syndicate composing the company that intends building an electric railway between Hamilton and Niagara Falls have purchased the Morning Star grist mill at Decew's Falls. On the site of the mill the company will erect a central power station.

RAT PORTAGE, ONT.—The Board of Trade is urging the Ontario government to replace the bridge over the Winnipeg river here with a steel structure.—Mr. Head, architect, reports building matters to be improving. He has two fine residences in hand on Tunnel Island. Two brick terraces are also in contemplation, to be heated by hot water.

LONDON, ONT.—E. Schaef will build a brick residence on the east side of Talbot street, near John street, to cost \$2,000. The architects are Moore & Henry.—On the 2nd of September the ratepayers will vote on the by-law to provide \$200,000 for establishing a sewage farm, in accordance with the recent reports of the engineers. Mr. Ashbridge, C. E., is in the city raking levels along the route of the proposed sewage system.—The corner-stone of the new Southern Congregational church was laid last week. The structure will cost \$7,000.—Thomas McCormick is having a house erected on Grand avenue, South London. H. Mathews, architect.—Tenders for erecting a freight shed, round house and coal docks are asked by Mr. O. Graydon until the 18th inst.

MONTREAL, QUE.—W. E. Doran architect, has prepared plans for houses, corner of Lagachetiere & Hermint sts., for F. B. McNamee, and is calling for tenders.—The Lachine Rapids Hydraulic and Land Company have purchased a site for a receiving and distribution station at the corner of McCord and Seminary streets, and tenders for erection will be asked at once.—The Dominion government will be asked to take practical steps towards securing the construction of a deep water basin at Maisonneuve. This work was under consideration some years ago by a syndicate, but was abandoned.—Building permits have been granted as follows: One house on Berrv street for F. Grenier; contractors, masonry, M. Galameau;

carpenter and joiner's work, Bayard Etube. Two houses on Bern street, St. James Ward, for Eug. Dubois; masonry, Morselle Paquette; carpenter and joiner's work, N. Deslauriers. Three houses on Sherbrooke street for S. Dumont; architect, G. S. Monette. Two houses on Rozet street for A. Lamarre; contractor, A. Lamarre. One house on Delormier avenue, St. Mary ward, for N. Fortier; carpenter and joiner's work, Eu. Paquin; masonry, Charest.—An extensive addition will be built to the Windsor depot, at the west end of the building. A porch will connect the new wing with the present building.

OTTAWA, ONT.—Application is made for incorporation of the Capital Register Co., for the purpose of manufacturing cash registers computing machines, etc. The incorporators are Ald. Morris, David McLaren, R. G. Code, J. Sharp and J. A. Banfield, of this city.—M. Thibault, of Nelson street, has been granted a permit to erect a brick veneered house, to cost \$3,500.—Messrs. Keefer & Davey, civil engineers, will probably present their report to Council this week on the main drainage system.—Mr. H. J. Beemer, president of the Pontiac and Pacific Junction Railway Co., expects that work will be commenced about the 15th inst. on the extension of the line from Aylmer to Hull.—Mr. A. T. Porter, of London, Eng., interviewed the Minister of Agriculture last week regarding the cold storage scheme. Providing a fast steamer service is arranged between Canada and Europe, it is proposed to construct abattoirs and cold storage warehouses in the vicinity of Quebec.—Tenders are invited by Mr. C. Edey, architect, at whose office plans may be seen until the 15th inst., for erecting a stone school house at Merivale, township of Nepean.—Specifications of work to be done on the section of the Trent Valley canal known as the Simcoe and Balsam Lake division have just been completed by the department of railways and canals. The distance is thirteen miles, and the principal works to be constructed are one hydraulic lift lock and approaches thereto, five ordinary locks, three dams, weirs, culverts, bridges, retaining walls and entrance piers. The canal will be generally fifty feet wide at the bottom. The contract is to be completed by the 1st of July, 1898.—The following contracts for the McLeod street Methodist church are still open: Seating, heating and galvanized iron.—Thos. Lawson will rebuild his premises which were lately destroyed by fire.—The Hull Electric Co. will build at once a boat house at Aylmer 40x30 feet.—Building permits have been granted as follows: S. Scott, brick veneer house for T. Garland on Gloucester street; M. Thibault, veneer house for Mrs. M. L. Seprohin on Nelson street; R. Taylor, rough cast houses for Mrs. Young, on Ann street; J. and C. Lowe, brick veneer house for C. E. Moss, on Daly ave.

FIRES.

Rolston's saw mill at Osgoode, Ont., was burned last week. Loss, \$1,500; insurance \$900.—The coal and lumber yard of the Reid Company, Toronto, suffered damage by fire last week to the extent of \$5,000, part of which is covered by insurance.—The residence of W. S. Pickup, reeve of Millbrook, Ont., was burned recently. Loss covered by insurance.—Ross Bros' saw mills at Buckingham, Que., were consumed by fire on the 6th inst. The loss is estimated at \$50,000, largely covered by insurance.—A planing mill at Courtright, Ont., owned by Geo. Stewart, was burned last week. There was no insurance.—The saw mill of Arthur Castonguay, at Notre Dame, Que., has been destroyed by fire.—The Globe hotel at Halifax, N. S., was damaged by fire to the extent of \$2,000.—L. McConnell's new saw mill at Notta-

wasaga river was destroyed by fire last week. Loss, \$5,000; no insurance.—The International hotel at Maple Creek, Man., was burned on August 8th. The loss is covered by insurance.—Many buildings were destroyed by fire in the vicinity of Chatham, Ont., on Monday last.—The interior of the Roman Catholic church at Bradford, Ont., was destroyed by fire on the 10th inst.—A house at Guelph, Ont., owned by Patrick Ryan, has been burned.

CONTRACTS AWARDED.

DANVILLE, QUE.—Mr. Sampson, of Windsor Mills, has the contract for the Anglican church here. Harry Staveley, Quebec, architect.

HILLSDALE, ONT.—The contract has been let for building the new Presbyterian church. It will be of brick, with stone basement, and will cost \$5,000.

WEST ZORRA, ONT.—The contract of the Fairview bridge in the fourth line has been let to Mr. Usher, of Thorold, and the Stratford Bridge Building Co.

TILBURY, ONT.—The contract for the new Anderson block has been let to James McDonald, for the sum of \$2,500. Work will be commenced at once.

BROCKVILLE, ONT.—The tender of H. O'Hara & Co., of Toronto, has been accepted for \$7,000 of debentures required for erecting the Horton public school.

CENTREVILLE, N. B.—Babcock, Leary & Co., of New York, have the contract for building the Woodstock and Centreville railway, and will sub-let the work in sections.

SHERBROOKE, QUE.—D. G. Loomis & Sons have the contract for enlarging St. George's church, Lennoxville. The plans were prepared by Messrs. Clift & Pope, architects.

ST. CATHARINES, ONT.—Wright & Cunningham, of this city, have been awarded the contract for supplying one hundred hydrants for the system of water-works at Niagara Falls, Ont.

VICTORIA, B. C.—Thomas Catterall has been awarded the contract for a two-storey and basement building to be erected on Wharf street for Mr. James Yates. The architect is Mr. A. C. Ewart.

ST. JOHN, N. B.—D. McQueen, railway contractor, of this city, has received the contract for a section of the Main Shore line railway, of which James Mitchell, of Portland, Maine, is the promoter.

WINNIPEG, MAN.—The Board of Works have accepted tenders as follows: block pavement on Elgin avenue, Doidge & Co., \$2,200; sewer on Nena street, Dobson & Jackson, \$1,937.60; block pavement on Main street north, Doidge & Co., \$2,780.

OTTAWA, ONT.—C. Tomlinson, of this city, has the contract for erecting the new station and other buildings at the new divisional headquarters of the O., A. & P. S. Ry. at Madawaska.—J. McIntosh has been given the plumbing contract for Dr. Klock's residence.—John McLoughlin has the stairs in Orme & Sons' music store on Sparks street. They will be of quartered oak. Arnoldi & Ewart, architects.

MONTREAL, QUE.—The Dominion Bridge Company have been awarded the contract to furnish the steel work in connection with the works of the Lachine Rapids Hydraulic Company.—The Road Committee received tenders as follows for constructing a sewer on Drolet street, from end of existing sewer to Dupalais street: M. Masson & Co., \$5.02 per cubic yard; rock excavation, \$3.50. Marcellin Gosselin, \$5.10 per cubic yard; rock excavation, \$2.95. Durocher & Campeau, \$4.38 per cubic yard; rock excavation, \$3.28. Fred. McKeown, \$4 per

cubic yard (accepted); rock excavation, \$2.89. George Henault, \$5.07 per cubic yard; rock excavation, \$3.35. A. C. Hutchison, architect, has awarded the following contracts for a house on Victoria street for Mde. D. McIntyre; Masonry, J. H. Hutchison; carpenter and joiner's work, L. Paton & Son; roofing, Montreal Roofing Co.; brick, W. H. Boon; painting and glazing, J. Thomas & Brothers; iron work, Dominion Bridge Co.

HAMILTON, ONT.—Messrs. Leitch & Turnbull have been awarded the following contracts: Electric passenger elevator for new Bank of Toronto bldg., London; twin elevators for Maritime Sulphate Fibre Co., Chatham, N. B.; hydraulic passenger elevator, Welland House, St. Catharines, belt power; two elevators for Cobban Mfg. Co., Toronto, Ont; factory elevator for the Tudhope Carriage Co., Orillia; electric elevator for T. B. Greening, wholesale merchant, Hamilton; three Hale hydraulic elevators, for Kingston and Toronto Insane Asylums; elevator for Parsons Produce Co., Winnipeg, Man.; electric elevator for Mr. Crompton, Toronto.—The Hospital Board of Governors have awarded the following contracts for the construction of a steam and hot water boiler and a coal house; Adam Clark, boilers, steam fitting, plumbing and gas fitting, \$1,326; Boothman & Hutchison, painting and glazing, \$42; John E. Riddell, gravel roofing, coping and galvanized iron work, \$117; John Henry, carpenter work, \$67; George E. Mills, mason and brick work, \$820.—Contracts for grading and track-laying of the H., G. & B. extension to Beamsville have been let to Carpenter & Larson, of Grimsby.

BUSINESS NOTES.

Gibson & Wilcox, plumbers, have started at Rossland, B. C.

F. H. Ross & Co., painters, Victoria, B. C., have assigned to J. Issler.

Edward Morgan, plumber and steam-fitter, Ottawa, has made an assignment.

John Burns & Co., plumbers, Montreal, have dissolved, John Burns continuing.

Robert Forsyth, marble and granite dealer, and S. E. Crevier, plumber, Montreal, have assigned.

Perrault, Perrault & Co., contractors, and Banin & Roy, civil engineers, Montreal, are new partnerships formed.

DOOR FRAMES.

Too much care cannot be taken in setting door frames, though many think that all that has to be considered when setting a frame is, that the jambs should be plumb, as they depend on the bracing tacked on to the frame, to keep it square, and to maintain the opening parallel.

A door frame when ready to receive the trim or architraves should be, first, square at the head, from both jambs; second, the jambs should be perfectly plumb both on their face and their edges; third, the face of the jambs should be straight from head to floor. This may be accomplished by using a straight edge on the face of the jamb, making the latter conform to the former. Fourth, the head also should be straight or it will be impossible to "square up" the frame. If all these conditions are fully complied with, the following satisfactory results will follow: First the edges of the jambs—if the jambs are parallel—will be out of "wind;" second, the opening will be

equal width, top and bottom, third, if the floor is level, the door, if properly hung, will swing clear off the floor an equal distance at any point, and will remain stationary at any angle from the jamb, within the range of the swing of the door.

Care taken in setting frames will be well repaid when the doors are hung. Every workman knows how difficult it is to make good work in door hanging if the frames have been indifferently set. A sprung jamb may lead to no end of trouble, and when the door is hung, the chances are that it will be a sorry piece of work, as it is a difficult job to fit a door to a jamb whose face has as many evolutions as a snake fence. Where possible, it is always best to have the man who is to fit and hang the door set the frames, and if advised beforehand, he will take greater pains in setting them than if he expected other than he to hang the doors.

It is always a good plan to have the door frames put together and made ready for setting on the works. All the stuff could be prepared at the shop or factory and made ready to put together, it could then be loaded up on cart or wagon in piles and taken to the works. This would make it easier to handle and more could be taken at each load.

The hinge jamb, or, as some workmen call it, the "hanging stile," should be well secured to the "jamb stud," which should be reinforced, either to another stud, or by having this well nailed between the "jamb stud" and the adjoining one. All studs used alongside door jambs or window frames should be dry if it is possible to secure them in that state, for an unseasoned stud attached to a window or door frame will be sure to pull the jamb out of shape when it dries and trouble will be sure to ensue. The effects may not be much noticed in small doors, but in large doors and in windows the shrinkage of these studs often causes very serious consequences.

PILE DRIVING.

It is frequently necessary to drive a few piles to hold a machine or serve as a foundation for chimney or other structure. It is necessary for the mechanic to possess some simple rule which will tell him whether a pile is driven hard enough to hold the required weight. The best way

to ascertain this point is to let the hammer drop as far as possible, or as far as the pile will stand, and note the drop of the hammer, and also the penetration of the pile under that drop. Then rest the hammer a less distance, letting it drop as before, and again noting the height or drop and penetration of pile. Subtract these quantities from each other, the less height from the greater, and the less penetration from the greater. Divide the drop by the penetration and multiply the quotient by the weight of the hammer. The result will be the weight which that pile will sustain. Should the advanced mechanic require a statement of this formula he can obtain it as follows.

Let L = the weight bearing capacity of the pile.

Let h' = height of drop of hammer under which the foundation is d'.

Then make another test of a light blow of the hammer, calling this drop h'', and the foundation d''. Let W = weight of the hammer; then

$$L = \frac{h' - h''}{d' - d''} W$$

KEEPING THE CELLAR DRY.

A method frequently employed in various parts of the country for keeping the surface water away from the cellar walls of a building so as to insure a dry cellar is thus described by one of our contemporaries: About 1 foot or 16 inches below the finished grade line a space all round the building is paved with a layer of concrete, which is pitched outward from the walls. A heavy coat of tar, or natural asphalt, is applied to this surface and carried upon the outside face of the house walls to the grade. The earth is then filled in so as to allow planting up to the walls of the building. Any water which works itself down on the outside walls would be carried away from the building by the underground paving, and there would be little opportunity for the water to work through the walls. Being under ground, the construction would be protected from the action of the elements to a certain extent, and would be likely to endure a much longer time than a paving or stone work laid level with the ground. It is somewhat surprising that this construction is not more generally used, as it would seem to have many very manifest advantages.

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BRIDGE BUILDERS
BELLEVILLE, ONT.

A NEW CEMENT.

Cements in common use are few in number, and their properties are such as to make the builder often turn round and wish that something else were available when he has a special difficulty before him, says the British Clay-Worker. In such cases his inventive faculty is called into play, and he dodges the difficulty by mechanical stays or supports, or else he puts in, with some misgiving, the best he can do with Portland or other cement.

In Germany the difficulty has of course been recognized and grappled with. With such scientific people as the Germans are, it is not to be expected that they would go on in the same old way without hunting about for a panacea which should fill the gap in the available remedies. A well-known expert in such matters claims, recently, to have solved the problem, and to have produced a cement intended to be used in a fused state to fix iron stay-braces in stone and brick-work, or even cast iron, as well as for filling up and repairing fissures in walls, buttresses and foundations. It is also useful for repairing faults in iron-castings, setting machinery and stuffing collar joints of all kinds, and therefore should form a handy substance for keeping in the store-shed of every brick-yard where machinery is employed.

Amongst the properties of this new cement we notice that it fires at a low heat to a watery consistence, whereby it is enabled to penetrate into the narrowest cracks and the smallest holes. Hence, when it cools it expands, and so adheres firmly to stone, brick, metal, or wood. Moreover, it resists the action of acids, moisture and oils, the two latter virtues specially recommending it to clayworkers who wish to repair, quickly and efficiently, slight damage to machinery.

The cement has recently been subjected to some very trying tests in Germany, and an account of these was recently given in the Mittheilungen aus d. Konigl. techn. Versuchsanstalt zu Berlin, vol. xiii., series (6), pp. 290-302. To those of our subscribers who can read German, a perusal of this lengthy paper would doubtless be valuable. We can, however, only spare space for the main results. We notice that the cement stood a pressure of 4'95 kilogrammes per sq. c.m. when in the form of cubes, and of 10'3 kilogrammes per sq. c.m. when in the condition of flat blocks 10x80x80 c.m. [N.B.—A kilogramme equals 2'205 lbs. avoird., or about 2 1/5 lbs.; a millimetre = 0'3937 in., or about 1/25 inch; a square millimetre = 0'00155 sq. in., or rather over 1/500 sq. in.]

The cement is found to make a thoroughly sound packing for collar joints, and atmospheric conditions have little or no influence. It now remains for us to produce something as good or better, or

else to adopt this new German cement; it is to be hoped that the former event will result.

ESTIMATING RADIATION.

John H. Mills, in his book, "Heat for the Warming and Ventilation of Buildings," has given a definite formula for figuring radiation, which is as follows

In estimating the size of a radiator for a room allow one square foot of radiating surface for each two feet of glass, one for each 20 square feet of wall exposed, and one for each 200 cubic feet of space to be warmed. The only extra figuring necessitated by the use of this rule is to estimate the amounts of window and wall exposure, which calculation, it would seem, would be well paid for by the extra element of certainty which such calculations would impart to the final estimate of radiation needed. With the more usual method of estimating merely on a ratio basis the results may have been certain enough, but with this rule, which requires but little more attention, a check is furnished for the ratio estimate, which would be well worth the trouble.

Perhaps the best way to work the rule, at least for those who are more accustomed to the ratio method, is to use the two together on such occasions as call for

a little extra consideration, first estimating on a ratio basis, and then by the 2-20-200 rule. If the two results approximate it is fair to assume a considerable confidence in the correctness of both; if the results vary a little an average of the two may make a safe determination, while if they are considerable at variance it would look as if it were well to reconsider one or both of the estimates. The final results from the 2 20 200 rule always represent steam surface or water if it is intended to run it at steam temperature. The common practice would, however, probably call for an increase of 25 to 30 per cent. in case the estimate was for a water radiator. This rule does not apply when the heating of any room under consideration involves any feature of ventilation, but it is intended to cover only such cases as come under the ordinary requirements of direct heating from direct radiators.

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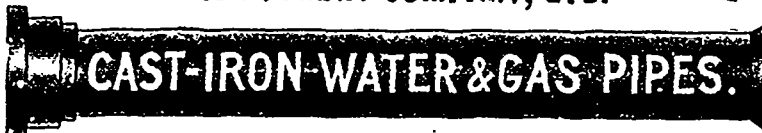
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PORTLAND CEMENT.

A series of comparative tests of Portland cement made by American, English, German, Belgian and Danish manufacturers, published by Engineering News, shows that no nation has a monopoly of the manufacture of good Portland cement; on the contrary, the reputable brands of cement appear to be of about the same quality in one country as in another. This is, after all, what should be expected. Portland cement is made from certain well-known constituents, and if those are combined in proper proportions and the process of manufacture is correctly conducted, the product should be about the same, no matter where the manufacture is carried on. There has been, and still is, a large amount of "superstition" concerning cement among engineers, and we even now hear it said that this or that or the other country is the only one that can produce "genuine" Portland cement.

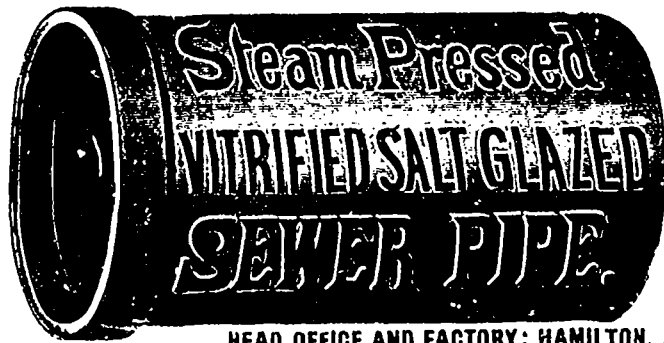
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The accompanying cut shows a combined street lifter and iron cart used by the city of Toronto for sweeping the streets. It is the design of Mr. Jones, Street Commissioner, and Mr. Gillies, foreman of the city blacksmith shop. It is claimed that by its use the work of cleaning the streets can be done much better, owing to the flexibility of the steel of which the cart is constructed enabling it

to pick up the sweepings much cleaner than by shovels. When this lifter is used there is never any dirt thrown upon the sidewalk by sweepers. The weight is about 1,500 pounds, and the cost of placing the machine upon the market in the neighborhood of \$350. It is estimated approximately that in cleaning Queen street, from Yonge street to McDonald ave., a distance of about 2 3/4 miles, a saving is effected by this method of \$9.50 each time the street is cleaned.



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Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: There are few new features to note in building material. The demand is falling off in many lines as a result of the summer quietude. In wire nails there is some movement, principally for small lots. A few orders are also being received for galvanized iron and iron pipe. An advance on glass has taken place in Belgium, but local trade is slow.

MONTREAL: The building supply trade has changed but little. Buyers are purchasing very lightly, and business is therefore restricted. The feature of the cement market has been the awarding of the contract to a local firm for 10,000 barrels by the Lachine Rapids Hydraulic and Land Co. The demand is principally for small lots, and business on the whole quiet and of a jobbing character. The arrivals for the past week were 1,900 barrels English, as against 2,498 for the previous week, making a total to date of 36,268 barrels of English and 24,561 Belgian. There is little activity in cut nails. Paints and oils are quiet and prices unchanged. For iron pipe there is a moderate demand.

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., 2, 3, 4 pickings, Am ins., etc.

VAID QUOTATIONS.

Table with columns for item description and prices. Includes Mill cull boards and scantling, Shipping cull boards, etc.

B. M.

Table with columns for item description and prices. Includes 1/2 in. flooring, dressed, F.M., 26 00, etc.

Toronto. Montreal.

BRICK—M

Table listing various brick types and prices, including Common Walling, Good Facing, Sewer, Pressed Brick, etc.

SAND.

Table listing Per Load of 1 1/2 Cubic Yards.

STONE.

Table listing various stone types and prices, including Common Rubble, Large flat Rubble, Foundation Blocks, etc.

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

Table listing various Ohio freestone types and prices, including No. 1 Buff Promiscuous, No. 1 Blue Promiscuous, etc.

SLATE.

Table listing various slate types and prices, including Roofing, Red, Purple, Unfading green, etc.

PAINTS. (In oil, @ lb.)

Table listing various paint types and prices, including White lead, Red lead, Yellow ochre, etc.

CEMENT, LIME, etc.

Table listing various cement and lime types and prices, including Portland Cements, Gernac, etc.

Toronto. Montreal.

Table listing various Portland Cement types and prices, including Newcastle, Belgran, English, etc.

Table listing various Hydraulic Cement types and prices, including Thorold, Queenston, Napanee, etc.

Table listing various Fire Bricks and Lime types and prices, including Keene's Coarse Whites, Fire Bricks, etc.

HARDWARE.

Table listing various hardware items and prices, including Cut nails, Steel.

CUT NAILS, FENCE AND CUT SPIKES.

Table listing various cut nails and spikes types and prices, including 40d hot cut, 30d, etc.

PINE BLVD NAILS.

Table listing various pine blvd nails types and prices, including 3d, 2d.

CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX NAILS.

Table listing various casing and box nails types and prices, including 12d to 30d.

FINISHING NAILS.

Table listing various finishing nails types and prices, including 3/4 to 2 1/4 inch.

SLATING NAILS.

Table listing various slating nails types and prices, including 5d, 4d.

COMMON BARREL NAILS.

Table listing various common barrel nails types and prices, including 1 inch, 3/4 inch.

CLINCH NAILS.

Table listing various clinch nails types and prices, including 3/4 inch, 2 1/2 inch.

SHARP AND FLAT PRESSED NAILS.

Table listing various sharp and flat pressed nails types and prices, including 3/4 inch, 2 1/2 inch.

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Steel Wire Nails, 70c. and 5% discount from printed list.

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Table listing various iron pipe types and prices, including Iron pipe, 1/2 inch.

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

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