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PERTH, ONT.—Mr. Duncan Klippen has prepared plans for the proposed alterations and improvements in the town hall building at this place.

VICTORIA, B. C.—The charter and land grant to the Columbia and Kootenay railway has passed the Legislature. H. Abbott, superintendent of the Pacific division of the C. P. R., states that tenders for the construction of the line will be asked for at once and the work will be completed by September next.

KINGSTON, ONT.—A petition will be presented to council for the construction of a sewer on Collingwood and Nelson streets.—A Government architect has been here looking for a suitable site for the proposed new drill shed.—A main sewer will probably be constructed on Charles street from Patrick to Rideau street.—West Point, Wells Island, has been purchased by Mr. Browning, of the firm of Browning, King & Co., New York, as the site for a fine residence to be erected during the summer.

QUEBEC.—Mr. Mercier has given the Quebec bridge promoters a pledge that the province will pay them \$40,000 a year for ten years.—The Fortress Hotel company has been formally incorporated with a capital stock of \$250,000. The leading promoters are: Timothy Hubbard Dunn, Richard Reid Dobell, George Richard Renfrew, Hon. Thos. McGreevy, Hon. William Bresse, John Breakay, Edouard John Hale, Hon. George Irvine, Nicholas Karly Connolly, Alphonse Charlebois, James Boswell and Vessey Boswell, all of this city.

MONTREAL, QUE.—There are about 36,000 feet of dead end sewers in this city, and the City Surveyor recommends that the most important of them be connected.—A Toronto syndicate has purchased part of Mr. Trenholme's farm at Blue Bonnets, adjoining the Montreal junction of the Canadian Pacific railway, and intends to open it up at once for building purposes.—It is said to be the intention of the Gas Co. to increase its stock by half a million dollars for the purposes of extending its system.—The council has by resolution signified approval of the passing of an act by the Parliament of Canada authorizing the construction of a general traffic and railway bridge across the St. Lawrence to the City of Montreal, providing the said bridge should not in any way interfere with the navigation of the river, and that the streets of the city be not interfered with without the consent of the council, and that before the work is commenced the plans be submitted to and approved by the Government of Canada.—A meeting will be held shortly to discuss the question of an industrial school for girls.

OTTAWA, ONT.—Representatives of an English syndicate are here prepared to provide capital for the construction of the Hudson Bay railroad, provided the Dominion Government will guarantee the land grant bonds of the company.—\$30,000 has been appropriated to complete the buildings on the experimental farms.—The supplementary estimates just brought down by the Government contain the following sums for public buildings in Ontario. Brampton public buildings, \$6,000; Napanee post-office, custom house, etc., to complete, \$5,500; Strathroy post-office, custom house, etc., \$3,000; Trenton public buildings, \$5,500; Lindsay post-office, custom house, etc., \$3,400; Departmental buildings, Ottawa, increased and improved vault accommodation in eastern block for Finance Department, \$45,000; London custom house, to complete, \$1,500; Pembroke post-office, custom house, etc., \$4,000; Stratford post-office, improvements, etc., to complete, \$1,900; St. Thomas post-office and custom house, improvements to heating apparatus, etc., to complete, \$1,100; Government Printing Bureau, \$1,000; Toronto post-office, sanitary works, \$350. The sum of \$860,000 is appropriated for construction work on railways and canals.

TORONTO, ONT.—Plans will be prepared for a residence for the high level pumping station engineer.—Tenders will be asked in our next issue for the annual supplies for the city Water Department.—The Water Department recommend the construction of sewers as follows: Millicent street, east of Dufferin street; Middleton street, Sheridan to Brock; Dora avenue, from St. Helen's avenue; Reynolds avenue, off Park road; Springhurst avenue, west from Jamison; Turner street, west of Niagara; Davenport road, to North View terrace; Sunnyside avenue, north from Queen; Smith street, to Pape avenue; Dowling avenue, to Queen; Eastern avenue, to Queen; Symington avenue, Ernest avenue to Wallace Avenue; Monterey street, to Dufferin; Fisher street, to Dufferin; Atkins avenue, from Brock; Logan avenue, Gerrard to Withrow; Defoe street, Niagara to Massey.—Tenders will be asked for paving with asphalt Sherbourne street, between King and Queen streets.—The City Engineer has recommended the construction of sewers on Summerhill avenue, Mileville avenue and Hampden avenue, on a lane south of Gerrard street from Ontario to Berkeley street, on Radcliffe avenue.—The construction of a Trinidad asphalt pavement on Melinda street is recommended.—Building permits have been granted as follows: Thomas Best, alterations and additions to building on north side of Adelaide street near Yonge, cost \$4,000; C. R. S. Dinnick, three two-storey and attic bk. clad dwellings, west side Borden street, near Vankoughnet street, cost \$8,420; James Way, three attached two storey bk. fronts, Centre St., cost \$2,400; W. G. Slocum, two prs. two storey bk. dwells., Spadina road, cost \$22,000; Caleb Evans, pr. s. d. two storey bk. dwells., Markham St., cost \$5,000; R. McGee, four storey bk. warehouse, near 97 Yonge St., cost \$8,500.—Capt. George Williamson is having plans prepared for a new block of stores on the north-west corner of College and Ossington avenues.—New tenders will be invited for the block paving of Peter street.

CONTRACTS AWARDED.

CHATHAM, ONT.—Eighteen tenders were received for the construction of a brick carriage factory for Wm. Gray & Sons. The contract has been awarded to Cucksey & Pritchard, at the sum of \$11,000.

HAMILTON, ONT.—The Public Library Board has accepted the tender of Messrs. Stevenson & Poulter for heating, at the price of \$4,457.—The contract for a pavement around the new city hall has been given to Otto E. G. Guelch, of Detroit, who will put down a silica barytic pavement at the price of \$2 564.34. The only other tender received was that of Mr. R. Forsyth, Toronto, whose figures were \$3,975.

MONTREAL, QUE.—Contracts for heating the public buildings at Strathroy, Goderich and Cobourg have been awarded to Garth & Co., of this city.—The Roads Department has recommended acceptance of the following tenders in connection with the paving of Craig street. 3-inch tamarac blocks, Bastien & Valiquette, \$1.23 per square yard, or a total of \$30,750; granite block, Robert Forsyth, at \$1.84 per square yard, or a total of \$920; chain stone, straight and curved, Desormeault & Frere, at 65 cents and 25 cents respectively, or a total of \$4,550. Laying—Bastien & Valiquette, wooden blocks, \$1.85; flagstone crossings, \$2 per square yard, curbstones, 30 cents, and street railway tracks, 90 cents per lineal foot, or a total of \$58,950. The contract for stone blocks was given to F. D. Lawrence at \$1.86 per square yard, over Robert Forsyth's tender of \$1.84. Mr. Lawrence was also given the contract for laying, at \$1.89 per square yard.

TORONTO, ONT.—The Water Department has accepted the tender of the Peterboro' Bridge Co. for extra lengths of 48-inch pipe, and also extra rings at \$8.31 per lineal foot.—The contract for the construction and erection of the stand pipe at the high level pumping station was awarded to the Canadian Bridge Co. of Montreal at \$3,140, on condition that the deposit and sureties are satisfactory.—Mr. John Maloney has been awarded the contract by the city council for supplying stone at \$10.90 a ton, to be delivered in various parts of the city.

ABSTRACT OF TENDERS FOR CEDAR BLOCK PAVEMENT.

Deposit.	\$	00	00	00	00	00	00
Salisbury Av. Western limit of present pavement to 190 feet west. Lump sum.	\$	409	00	449	00	497	00
McPherson Av. Avenue Rd. to Rathnally Av. Lump sum.	\$	1,828	00	1,823	00	1,865	00
Rathnally Av. Rathnally Crescent to McPherson Av. west. Lump sum.	\$	3,348	00	3,230	00	3,333	00
McMaster Av. Avenue Rd. to Rathnally Av. Lump sum.	\$	1,747	00	1,797	00	2,039	00
Crawford St. Queen Street to Defoe St. Lump sum.	\$	2,118	00	2,027	00	2,247	00
Widening Dundas St. Queen Street to the bend. Lump sum.	\$	1,400	00	1,296	00	1,707	00
						1,580	00
						1,393	00

The names of the successful tenderers are as follows: McMaster Av., A. J. Brown; Dundas street, Jas. Rogers; Crawford street, W. H. Cathro; Rathnally Avenue, Van Vlack; McPherson Avenue, Van Vlack; Salisbury Avenue, Jas. Rogers.

Attention has lately been called to the peculiarly corrosive, and consequently destructive, effect of the creosote of wood soot upon chimneys, owing to the fact that the creosote thus formed from the slow combustion of wood contains so large a proportion of pyroigneous vinegar or crude acetic acid; this acid being formed in large quantities when the combustion of wood is slow, many quarts, in fact, being condensed in cold weather where a large wood fire is very much checked, only a few hours being required for such condensation. The acid in question dissolves lime readily, carrying it away in solution, and in this manner the mortar is frequently entirely removed from the tops of chimneys in the country, new ones suffering in the same way as the old, instances being numerous where the top courses of brick in chimneys only two years old have become entirely without support other than that afforded by the sand with which the lime was mixed.

ARCHING AND VAULTING.

The tendency of any arch to overturn its abutments, or to destroy them by causing the courses to slide over each other, may be counteracted in three ways. 1, the arch may be continued through the abutment until it rests on a solid foundation; 2, by building the abutments so as to form a horizontal arch, the thrust being thrown on the wing walls, which act as buttresses; 3, where neither of these expedients is practicable, by joggling the courses together with bed-dowel joggles, so as to render the whole abutment one solid mass.

Where the wing walls of a bridge are built the pressure of the earth will always have a tendency to fracture them at their junction with the abutments. Equal strength with the same amount of material will be obtained by building a number of longitudinal and cross walls, by which means, the earth being kept from the back of the walls, there is no tendency to failure of this kind.

The ordinary forms of vaults may be classified under three heads, viz., cylindrical, coved, and groined.

A cylindrical vault is simply a semi-circular arch, the ends of which are closed by upright walls. When a vault springs from all the sides of its plan, it is said to be coved. When two cylindrical walls intersect each other, the intersections of the vaulting

surfaces are called groins, and the vault is said to be groined.

In the Roman style of architecture, and in all common vaulting, the vaulting surfaces of the several compartments are portions of a continuous cylindrical surface, and the profile of a groin is simply an oblique section of a semi-cylinder.

Gothic ribbed vaulting is, however, constructed on a totally different principle. It consists of a framework of light stone ribs supporting thin panels, whence this mode of construction has obtained the name of rib and panel vaulting. The curvature of the diagonal ribs or cross springers, and of the intermediate ribs, is not governed in any way by the form of the transverse section of the vault, and in this consists the peculiarity of ribbed vaulting.

Domes and vaults are on a circular plan. The equilibrium of a dome depends on the same conditions as that of a common arch, but with this difference, that, although a dome may give way by the weight of the crown forcing out the haunches, failure by the weight of the haunches squeezing up the crown is impossible, on account of the support the voussoirs of each course receive from each other.—*Granite Cutters' Journal.*

The Canadian Contractors Hand-Book, 50 cents to Record subscribers.

SEALED TENDERS

FOR HEATING THE NEW

General Hospital at Stratford, Ont.,

Will be received at the architect's office until **TUESDAY, APRIL 1ST.** Plans and specifications for both steam and hot water systems may be seen at above office. Lowest or any tender not necessarily accepted.

FRED HENRY, Architect,
Masonic Temple, London, Ont.

TENDERS

Will be received until 12 o'clock noon on **SATURDAY, APRIL 5TH,** for the erection of Two Dwellings and alterations to a third on John Street, near Queen Street.

Plans and specifications can be seen at the office of

WHITEHEAD & FAWELL,
S. E. Corner Queen and Yonge Sts., Toronto.



TO PLUMBERS.

Tenders addressed to the undersigned will be received through registered post up to noon on **Thursday, the 3rd day of April next,**

For constructing Water Closets in several city buildings.

Specifications may be seen and all further information obtained upon application at the office of the City Commissioner, City Hall.

Tenders must be accompanied by a cash deposit or a marked cheque, payable to the order of the City Treasurer, for five per cent. on the amount thereof.

Should any of the parties whose tenders are accepted fail to give satisfactory security for the due performance of the work their deposits will be forfeited.

The deposits of unsuccessful tenderers will be returned.

The names of two responsible sureties must accompany each and every tender.

The lowest or any tender not necessarily accepted.

FRANK MOSES,
Chairman Committee on Property.

City Clerk's Office, Toronto, March 25, 1890.

FOR SALE.

200,000 Bricks and One Brick and Tile Machine manufactured by Close & Son, of Woodstock, for sale cheap. Apply to
C. DENNE, Newmarket.

TENDERS

WILL BE RECEIVED FOR THE FOLLOWING

House on Gloucester Street,
Alterations on Carlton Street,
Block of Stores on College Street,
Stable on Sherbourne Street.

Apply to GEO. M. MILLER, Architect,
Corner Queen & Yonge Sts., Toronto.



NOTICE TO CONTRACTORS.

Tenders will be received by registered post, addressed to the City Engineer, up to 12 o'clock noon of the **8TH DAY OF APRIL, 1890,** for the construction of the following works:—Cedar block pavements—Peter street, from King street to Queen street; John street, from King street to Queen street; Morris street, from Spadina ave. to Huron street; Roxboro' street, from Yonge street easterly; Virtue street, from Sorauren ave. to East terminus. Scoria block pavement—Sherbourne street, from King street to Queen street. Grading—Sylvan avenue, from Dufferin street.

Plans can be seen, quantities and forms of tender obtained on and after Tuesday, the 1st day of April, 1890, at the City Engineer's office.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for under \$1,000, and 2 1/2 per cent. over that amount, must accompany each and every tender, otherwise it will not be entertained.

All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications) or they will be ruled out as informal.

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

JOHN SHAW,
Chairman Committee on Works.

Committee Rooms, Toronto, March 26th, 1890.

Prices of Building Materials.

LUMBER.

CAR OR CARGO LOTS.

1 1/2 and thicker clear picks, Am. ins.	\$30 00	32 00
1 1/2 and thicker, three uppers, Am. ins.		37 00
1 1/2 and thicker, picks, Am. ins.		27 00
1 x 10 and 12 dressing and better.	18 00	20 00
1 x 10 and 12 mill run.	13 00	14 00
1 x 10 and 12 dressing.	14 00	16 00
1 x 10 and 12 common.	12 00	13 00
1 x 10 and 12 spruce culls.	10 00	11 00
1 x 10 and 12 maple culls.		9 00
1 inch clear and picks.	28 00	30 00
1 inch dressing and better.	18 00	20 00
1 inch siding, mill run.	14 00	15 00
1 inch siding, common.	11 00	12 00
1 inch siding, ship culls.	10 00	11 00
1 inch siding, mill culls.	8 00	9 00

Cull scantling.	8 00	9 00
1 1/2 and thicker cutting up plank.	22 00	25 00
1 inch strips, 4 in. to 8 in. mill run.	14 00	15 00
1 inch strips, common.	11 00	12 00
1 1/2 inch flooring.	14 00	15 00
1 1/2 inch flooring.	14 00	16 00
XXX shingles, sawn.	2 30	2 35
XX shingles, sawn.	1 30	1 35
Eastlake galvanized steel shingles, 24 W. G., per square.		6 00
Eastlake galvanized steel shingles, 26 W. G., per square.		5 50
Eastlake painted steel shingles, per sq.		4 00
Round pointed galvanized steel shingles, per sq.		6 00
Round pointed painted steel shingles.		4 25
Round pointed, unpainted, Terne tin shingles.		4 00
Manitoba galvanized, steel siding, per square.		5 00
Manitoba painted steel siding, per sq.		3 50
Painted sheet steel pressed brick.		3 50
Painted crimped steel sheeting.		3 40
Price of Copper shingles according to weight.		

YARD QUOTATIONS.

Mill cull boards and scantling.	10 00
Shipping cull boards, promiscuous widths.	13 00
Shipping cull boards, stocks.	14 00
Hemlock cantling and joist up to 16 ft.	12 00
" " " " 18 "	13 00
" " " " 20 "	13 00
Scantling and joist, up to 16 ft.	14 00
" " " " 18 ft.	15 00
" " " " 20 ft.	16 00
" " " " 22 ft.	18 00
" " " " 24 ft.	20 00
" " " " 26 ft.	22 00
" " " " 28 ft.	24 00
" " " " 30 ft.	26 00
" " " " 32 ft.	26 00
" " " " 34 ft.	28 50
" " " " 36 ft.	30 00
" " " " 38 ft.	32 00
" " " " 40 to 44 ft.	35 00
Cutting up planks, 1 1/2 and thicker, dry board.	25 00
" " " " " "	18 00
Cedar for block paving, per cord.	5 00
Cedar for Kerbing, 4 x 14, per M.	14 00

B. M.

1 1/2 inch flooring, dressed, F. M.	28 00	32 00
1 1/2 inch flooring rough, B. M.	18 00	22 00
1 1/2 " " dressed, F. M.	25 00	28 00
1 1/2 " " undressed, B. M.	18 00	19 00
" " " " dressed.	18 00	22 00
" " " " undressed.	12 00	15 00
Beaded sheeting, dressed.	22 00	35 00
Clapboarding, dressed.		12 00
XXX sawn shingles, per M. 16 in.	3 65	2 75
Sawn lath.	3 00	2 20
Red oak.	30 00	40 00
White.	35 00	45 00
Basswood, No. 1 and 2.	18 00	20 05
Cherry, No. 1 and 2.	70 00	70 00
White ash, No. 1 and 2.	25 00	25 00
Black ash, No. 1 and 2.	20 00	30 00
Dressing stocks.	16 00	22 00
Picks, American inspection.		40 00
Three uppers, American inspection.		50 00

BRICK—M

Common Walling.	\$ 7 50
Good Facing.	9 25
Sewer.	9 00

Pressed Brick:

Plain brick, f. c. b. at Milton, per M.	\$18 00
" " " and quality, per M.	13 00
Ornamental brick, at Milton, per 100.	\$3 to 10 00

