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# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF MUNICIPALITY

PUBLIC WORKS • TENDERS •  
ADVANCE INFORMATION •  
AND MUNICIPAL PROGRESS

EVERY WEDNESDAY

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

Vol. 9.

NOVEMBER 2, 1898

No. 40.

## THE CANADIAN CONTRACT RECORD, PUBLISHED EVERY WEDNESDAY

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

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

Advertising Rates on application.

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so, give both old and new address. Notify the  
publisher of any irregularity in delivery of paper.

## Tenders Wanted

Sealed tenders, addressed to Thos. Anderson, Esq.,  
Comber, Ont., will be received up till 12 o'clock, noon, on

FRIDAY, THE 4TH DAY OF NOVEMBER, 1898,

for the furnishing, erecting, etc., of TWO STEEL  
HIGHWAY BRIDGES over Big Creek, in the Town-  
ship of Tilbury West.

General plans and specifications may be seen at the  
office of Thos. Anderson, Esq., Comber, Ont., or at the  
office of the undersigned, Windsor, Ont.

The lowest or any tender not necessarily accepted.  
Dated at Windsor this 22nd day of October, 1898.

WM. NEWMAN,  
Engineer Big Creek Drainage Works.

### EXTENSION OF TIME.

The time for receiving tenders as above has been  
extended to FRIDAY, NOVEMBER 11th.

## Tenders Wanted

Sealed tenders, addressed to Alderman Sanders, will  
be received up till 12 o'clock, noon,

SATURDAY, THE 12TH DAY OF NOVEMBER, 1898,

for the Plastering, Plumbing, Metal Cornice Work,  
Painting and Glazing, Electric Wiring and Hot Water  
Heating Work required for the NEW MUNICIPAL  
BUILDING for the City of St. Thomas, Ont.

Plans and specifications can be seen, and forms of  
tender obtained, at the office of N. R. Darrach, Archi-  
tect, Talbot Street, St. Thomas, Ont.

The lowest or any tender not necessarily accepted.  
A deposit in the form of a marked cheque, for 2½ per  
cent. of the amount of contract price, must accompany  
each tender, also names of parties offered as security for  
the due completion of the work.

ALDERMAN SANDERS,  
Chairman of Building Committee,  
St. Thomas, Ont.



## NOTICE TO CONTRACTORS

Tenders will be received, by registered post only, ad-  
dressed to the Chairman of the Board of Control, City  
Hall, Toronto, up to noon on WEDNESDAY, NO-  
VEMBER 9th, 1898, for the construction of the  
following:

### 6-FT. CONCRETE SIDEWALK:

On Wellesley Crescent, south side, from Sherbourne  
Street to eastern limit of Mr. Thomas Long's property.

### 4-FT. BRICK SIDEWALK:

On both sides of Duncan Street, from Queen Street to  
Richmond Street.

Plans and specifications may be seen and forms of  
tender obtained at the office of the City Engineer, To-  
ronto, on and after Wednesday, November 2nd, 1898.

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 up to \$1,000,  
and 2½ per cent. on the value of the work over that  
amount, must accompany each and every tender, other-  
wise they will not be entertained.

Tenders must bear the bona fide signature of the  
contractor and his sureties, or they will be ruled out as  
informal.

The lowest or any tender not necessarily accepted.

JOHN SHAW (Mayor),  
Chairman Board of Control.

City Hall, Toronto, October 29th, 1898.

### DATE OF PUBLICATION.

Architects, Engineers, Municipal Au-  
thorities and others are reminded  
that the CONTRACT RECORD is printed  
every Tuesday afternoon, and that adver-  
tisements should reach the office of publi-  
cation not later than 2 o'clock p.m. on that  
day to ensure insertion in the issue of the  
current week. Advertisements are fre-  
quently received too late for insertion, to  
avoid which special attention is directed  
to this announcement.

### CONTRACTS OPEN.

MIDDLEVILLE, ONT.—It is proposed to  
erect a new town hall here.

HARTLAND, N.B.—It has been decided  
to build a new school house, to cost about  
\$5,000.

COATICOOK, QUE.—A new market  
building is to be erected here, at a cost of  
\$4,000.

LAKE MEGANTIC, QUE.—Improvements  
will be made to Mr. Ratelade's  
building.

HORTON, N.B.—Gilead Secord, of the  
Central Hotel, intends building a new  
residence.

BILLING'S BRIDGE, ONT.—W. Doxy  
purposes establishing a brick-yard near  
this place.

MONTMAGNY, QUE.—The Electric

Light Co. are about to build another  
power house.

EDMONTON, N.W.T.—White & Bel-  
veau, of the Queen's Hotel, will erect a  
three storey block.

ST. HYACINTHE, QUE.—The Eastern  
Townships Bank has secured a site for a  
new building, to be erected at once.

CAMPBELLTON, N.B.—J. & D. A. Har-  
quail are erecting a factory 90 x 60 feet,  
with engine and drying rooms attached.

MONCTON, N.B.—The town is consid-  
ering the question of making some ex-  
tensive changes to its electric light plant.

WAKEFIELD, ONT.—The managers of  
A. McLaren's business purpose making  
extensive alterations to their woollen fac-  
tory.

WINCHESTER, ONT.—It is understood  
that negotiations are about completed for  
the erection of a cold storage building  
here.

LIVERPOOL, N.S.—Tenders have been  
invited for the purchase of \$4,700 of de-  
bentures. Address T. R. Bartling, town  
clerk.

MARBLETON, ONT.—Cross & Ewing  
are making arrangements for water power  
at Lime Ridge for the purpose of sawing  
pulp wood.

PERTH, ONT.—Tenders are being taken  
for a four-roomed addition to public  
school, from plans by G. T. Martin, of  
Smith's Falls.

SHERBROOKE, QUE.—The Sherbrooke  
Gas and Water Company will issue bonds  
to the extent of \$75,000. E. F. Walter-  
house, secretary.

ST. THOMAS, ONT.—It is probable that  
the St. Thomas Street Railway Company  
will be extended to Port Stanley. J. H.  
Still is president.

BRANTFORD, ONT.—M. J. Butler, of  
Napanee, associate engineer for the flood  
prevention works, is in the city making an  
inspection of the work.

BRAMPTON, ONT.—The agreement be-  
tween the Hutton Electric Light Company  
and the corporation for lighting the streets  
has been signed by the Mayor.

OWEN SOUND, ONT.—Tenders are  
wanted by November 5th for construction  
of fire alarm system. Address, W. H.  
Sinclair, chairman of committee.

PARRY SOUND, ONT.—The hotel pro-  
ject, which is being promoted by H. Hog-  
ben, is now understood to have taken  
more definite form, with a good prospect  
of success.

STRATFORD, ONT.—The Sewerage  
Committee of the Provincial Board of  
Health have recommended that steps be  
taken by the city at once to provide puri-  
fication works.

ST. ETIENNE, QUE.—The citizens have  
decided to build a new church. They  
will build a sacristy this fall, and  
next spring the work on the church will  
be commenced.

CASSEL, ONT.—J. Kaufman intends

enlarging his factory to accommodate cheese boxes, butter boxes and sash and door machinery. The latter will be installed by W. Sapp.

GALT, ONT.—W. Marshall, architect, is superintending the erection of the new opera house, which will cost about \$6,000.

ST. JOHN, N. B.—The Portland House Co., Ltd., has taken a lease of the building now occupied by Whitaker & Co., and will make extensive improvements thereto before next spring.

WILKESPORT, ONT.—The township council of Dombra has passed a by-law providing for the issue of debentures to the extent of \$2,035 for drainage purposes. Ora Bishop, township clerk.

ETHEL, ONT.—Proposals were asked up to 5th inst. for purchase of 3,207 sq. ft. of 20 year drainage debentures, bearing interest at 4 per cent. Address: Wm. Spence, clerk township of Grey.

LONDON, ONT.—Work has commenced on the five storey block to be built for Gormin, Eckert & Co., of which H. C. McBride is architect. The front will be of brown stone and pressed brick.

CORNWALL, ONT.—On January 2nd next the electors will vote on a by-law to raise a sum of money for the purpose of developing the water power necessary to operate the waterworks of the town.

STAYNER, ONT.—A by-law for \$20,000 for waterworks is to be submitted to a vote of the people during December. All the surveys, estimates and plans were made by John Galt, C.E., of Toronto.

HULL, QUE.—At the last meeting of the city council, it was decided to call for tenders at once for lighting the city by electricity. The Hull Electric Co. will likely extend its road to Galloway Point.

SYDNEY, C. B.—The Board of Trade has recommended the town council to accept the proposition of Davidson & Sons, boiler makers, Halifax, asking the town for \$5,000 to establish their works here.

CARP, ONT.—Surveys have been completed for the Carp, Almonte & Lanark railway, which it is proposed to extend from Carp, through Lanark county, to Almonte, tapping the C.P.R. near Mattawa.

WINDSOR, ONT.—By advertisement elsewhere, the time for receiving tenders for constructing two steel bridges over Big Creek, in township of Fallow West, has been extended to Friday, November 11th.

BRUCE MINES, ONT.—The government having made an appropriation of \$6,000 for a new wharf here, on condition that the town should provide a site, a move is now being made to have the work proceeded with.

BELLEVILLE, ONT.—On November 22nd the ratepayers will vote on a by-law to grant a bonus of \$50,000 to the Abbott-Mitchell syndicate for the erection of rolling mills in this city, the money to be raised by debentures.

CALGARY, N. W. T.—The Calgary Brewing & Malting Company will erect an elevator in connection with their brewery, to cost \$15,000. W. K. Campbell, late of Moose Jaw, is about to erect a two-storey stone building here.

FREDERICTON, N. B.—The Department of Public Works has invited tenders, to be received up to the 7th inst. for repairing the bridges at the mouth of Keswick, the M. L. L. bridge at Nashwaak, and the Russell Brook bridge in Kent county.

HALIFAX, N. S.—The Canadian Railway Co. have opened an office in this city, with Mr. Martin Van Halbeek, chief engineer, in charge. It is understood that as soon as arrangements can be completed, the construction of the road will be undertaken.

AMHERST, N. S.—At a recent meeting of the ratepayers, it was decided to authorize the council to make a grant of money towards the construction of a railroad from Amherst to North Point, on Northumberland Straits. The length of the road will be about 20 miles.

PRESCOTT, ONT.—The consulting engineer, Mr. John Galt, of Toronto, is preparing plans and designing a system of waterworks, sewerage and electric lighting for this town. Commissioners will be appointed at the forthcoming January elections, and work will proceed during the year 1899.

VICTORIA, B. C.—On behalf of a Victoria syndicate, William Jensen and Lawrence Goodacre give notice of application for the incorporation of the Hardy Bay Tramway Co., to build a tramway from Hardy Bay to Cold Bay, Quatsino Sound, a distance of 8 miles. It is probable that electricity will be used as the motive power.

BARRIE, ONT.—The Stanley Piano Company, of Toronto, are negotiating for the removal of their factory to this town. Tenders for House of Industry supplies, including 150 chairs and 106 blinds, are invited by Joseph Whitesides, chairman Property Committee, up to November 5th. Specifications at office of Smith & Bird, architects, this town.

PEMBROKE, ONT.—Roderick J. Parke, E.E., of Toronto, is preparing an estimate of the cost of installing a municipal electric light plant for the town. The paragraph in former issue that the council had reconsidered their decision to engage an expert was an error.—Ten miles of the Pembroke Southern Railway have been completed, leaving 12 miles yet to be constructed.—The Pembroke Milling Co. have decided upon the erection of an elevator, 60 x 30 feet, and two storeys high.

WINNIPEG, MAN.—Extensive improvements, including a system of lighting and steam heating, will be made to Carsley & Co.'s establishment.—Mr. G. W. Gouinlock, architect, Toronto, is in the city in connection with the erection of a substantial business block on one of the prominent Main street corners.—Tenders are wanted for building a school house, 24 x 40 feet, in St. Eustache. Particulars from M. Rochon, 64 Nena street, this city.

OSHAWA, ONT.—A system of water supply and sewerage has been designed by Mr. John Galt, consulting engineer, of Toronto, to cost about \$120,000. The water is to be gravitated to the town from a flowing spring in the ridges, about 13 miles due north. Twenty miles of water mains and over 100 fire hydrants will be required, which will place conveniences at the door of nearly every inhabitant. The by-law has yet to be voted upon.

VANCOUVER, B. C.—It is learned that a four-story building is to be erected on Hastings street, to be completed this year.—The Provincial government is calling for tenders for the construction of a steel arch bridge at the Gorge, Victoria Arm. Tenders close November 30th.—A by-law to provide funds for the construction of a wharf received the sanction of the ratepayers last week.—In all probability the Royal City Planing Mills Company will rebuild the Hastings saw mill without delay.—The Methodist congregation at Central Park will build a new church, for which a site has been secured.

NEW WESTMINSTER, B. C.—F. M. Rittenbury and J. G. Tiarks, joint architects, have prepared plans for a new building for the Bank of British Columbia, to be two storeys and basement, pressed brick front, ceiling of panelled cedar, heated by steam and lighted by electricity. Pressed brick from the British Columbia Terra Cotta Works at Victoria will be used.—It is understood that

Thomas Dunn will build on his property on the south west side of Columbia street, and that Hardy Freeman will erect a brick building at once. The proprietors of the New Westminster Sun will also erect a building, and a number of private residences will be commenced immediately.—The new opera house will be erected on the lot immediately west of the Baptist church, and will be a two and one-half storey frame building, 50 x 110 feet.

QUEBEC, QUE.—Active preparations are going on for the perfecting of the scheme to make Paspébiac, on the Baie des Chaleurs, an ocean steamship port.—The official announcement has been made by the Quebec, Montmorency & Charlevoix Railway Company that it is proposed to electrify the road running to Cap Tourmente, and to construct an independent branch to Montmorency Falls. The estimated cost of improvements is given as \$330,000, and when completed the system will comprise over 60 miles of electric railway. The president of the company is H. J. Beemer.—The Seminary of Quebec have decided to finish their chapel. Messrs. Peachy & Dussault, architects, are at work on the plans for the interior decoration.—Tenders are asked for the construction of five suburban villas to be erected on Maple ave., from plans prepared by Peachy & Dussault, architects. Tenders are also asked by the Seminary of Chicoutimi for the finishing of a chapel; dimensions, 100 x 52 ft., with side chapels. The chapel will be three stories.

HAMILTON, ONT.—The promoters of the Hamilton, Chedoke & Ancaster electric railway have made a new proposition to the City Council, which has been accepted. It is hoped that it will now be possible to finance the project.—The city engineer has recommended that improvements be made to the waterworks system. He estimates the cost of proposed extensions as between \$160,000 and \$180,000. The cost of operating at present is \$13,320 per year, while with the new main it would be \$11,255.—The Finance Committee has renewed its recommendation to purchase property at the corner of King William and Mary streets, for the purpose of erecting thereon a building for the Police Department.—Building permits have been granted as below: James Hosack, brick additions to houses, George street, for John Moodie, cost \$1,500; John Henry, two-story brick dwelling, West avenue, between King William and Wilson, cost \$1,200; W. A. Edwards, brick addition to 33 York street, cost \$1,000; Thomas Upton, addition to jam factory on Ida street, cost \$1,500; F. J. Rastrick & Son, twenty houses on Cheever street, for J. J. Scott, cost \$11,000.

OTTAWA, ONT.—The following permits for buildings were granted last week: A. Richard & Co., brick veneered double dwelling, Lewis street, cost \$2,000; S. J. Davis, two brick veneered houses, Cooper street, cost \$2,000 each, brick veneered dwelling, Gilmour street, cost \$2,000; F. McCullough, brick dwelling on Stewart street, owned by trustees of St. Alban's church, cost \$3,500; A. Emery, brick veneered dwelling, Wilbrod street, cost \$800.—LeMay & Noel, clothing dealers, corner Sussex & Murray streets, intend building an addition to their premises.—It is not expected that any steps will be taken in the near future by the government with respect to the prevention of of the Rideau floods.—Plans are being prepared by the Department of Public Works for a new bridge over the Canada Atlantic Railway at Maria street, to cost \$30,000.—The time for receiving applications for the position of main drainage engineer expired on the 27th October, but no appointment will be made until November 2nd, when the applications for the position of city engineer will also be considered.—It is expected that the Ottawa, Arnprior and Parry Sound Rail-

way Company will commence work at an early date on their central passenger depot, in accordance with the terms of their agreement with the city.—Application is being made to the provincial government for the incorporation of the Ottawa Stockyards & Abattoir Company, represented by Mr. George E. Kidd, barrister.—The corporation of the University of Ottawa have purchased the Shea property on Wilbrod street, and will commence at an early date the erection thereon of a large stone building, to be used as a museum.

**MONTREAL, QUE.**—The plans of the new Grand Trunk offices to be built on McGill street have been deposited at the city hall, and call for an expenditure of \$400,000. We are advised by the management that no contracts in connection with the proposed building have as yet been awarded, and it is somewhat indefinite as to when they will be.—Some of the citizens of St. Genevieve and Point Claire are considering the advisability of connecting the two parishes by an electric railway, having for its object increased facilities for communication with Montreal.—Notice has been given that it is proposed to construct sewers on St. Antoine street, Des Rivières avenue, and Chausse street, from Ontario street southwards.—It is the intention of the management of the Union Stock Yards to build a modern abattoir to replace the one which was destroyed by fire some time ago.—The Finance Committee has granted \$3,000 to the Water Committee for a new service pipe, \$3,000 to repair the turbine wheels, and \$700 for repairs to the condenser.—Mr. W. C. McDonald has donated to the Department of Electric Engineering at McGill University the sum of \$30,000 with which to purchase modern electrical apparatus.—The Grand Trunk Railway are about to undertake the construction, at their shops at Point St. Charles, of 200 flat cars, at a cost of \$100,000.—The Harbor Commissioners want tenders by Thursday, 3rd inst., for the supply of 1,200 tonne of Banc Rouge stone. Address, Alexander Robertson, secretary.—The Beaver Portland Cement Company, capital \$150,000, is seeking incorporation, to manufacture Portland and other cements. R. T. Hooper, Q.C., R. D. McGibbon, Q.C., and W. F. Robinson, of this city, are provisional directors.

**TORONTO, ONT.**—Tenders are wanted for additions and alterations to office of Reinhardt & Co., Mark street.—The time for receiving tenders for elevators for the new municipal buildings has been extended until noon on Friday, November 4th.—A sub-committee of the Property Committee appointed to consider water front improvements will recommend that a by-law to provide \$40,000 for the purpose be submitted to the ratepayers. Mr. Sankey has prepared plans of two proposed schemes.—The city engineer will recommend the construction of a storm intercepting sewer which will empty into the Don the drainage of the district east of Parliament and north of Gerrard streets. The cost is given as \$16,000.—A petition is being circulated in Ward 1 favoring the construction of a high level bridge over the Don river at King street.—Mr. J. O. Buchanan has advised the Mayor that he is considering the formation of a company to provide cold storage accommodation at St. Lawrence market, providing the proposed improvements are carried out.—The Mayor has received assurances from Hon. Mr. Patterson and Hon. Mr. Dobell that assistance will be given by the Dominion government towards the dredging of Toronto harbor.—A report is current that the Dominion government is considering the purchase of a site on the north-west corner of Bay and Adelaide streets, with a view to the erection of a new post-office and inland

revenue building thereon.—The city will shortly undertake the following works: 24 feet brick pavement on gravel foundation on Spruce street, from River to Sumach, cost \$2,610; 11 feet brick pavement on concrete foundation on Oxford avenue, from Clara street to a point 119 feet west, cost \$460; 26 feet macadam roadway on Parliament street, Queen to Gerrard street, cost \$7,810; 24 feet macadam roadway on Sumach street, Gerrard to Wellesley street, cost \$6,440.—Messrs. Gordon & Helliwell, architects, are superintending the erection of a power house at Bond Lake for the Metropolitan Electric Railway Co. The Goldie & McCullough Co., of Galt, are supplying the machinery, and the Hamilton Bridge Works Company the iron and steel construction. Same architects are awarding contracts this week for a factory building on Queen street east for the Toronto Fence & Ornamental Iron Works, and for the minor trades required in the erection of a residence in Rosedale.—Mr. Henry Simpson, architect, is preparing plans for a brick and stone laundry building, 112 x 40 feet, to be built on McCaul street. Same architect has prepared plans for a frame cottage on Waverley street.—A rumor is current that the proprietors of the Rossin House purpose making extensive alterations, at an approximate cost of \$100,000.

#### FIRES.

The fires of the past week included the following: Isaac Sargent's planing mill on King street, London; loss \$25,000, small insurance.—J. D. Shier's saw mill at Bracebridge, Ont.; loss \$5,000, covered by insurance.—The Boddy block at Portage La Prairie, Man., including offices of the Review Printing Co., W. J. Roney, photographer, and B. Pierce, wall papers.—Building in connection with W. H. Tighe's evaporating factory at Chatham, Ont.—Tannery of Gaspard Rochette at St. Rochs, Quebec, completely destroyed; loss on building and machinery, \$20,000.—R. Lee's bakery at St. Catharines, Ont., damaged to the extent of \$1,000.—C. Thiboudot's carriage factory on Fraser street, Levis, Que., together with outbuildings and residence; loss \$12,000, insurance \$3,500.—The Hastings saw mill at Vancouver, B.C., owned by the Royal City Planing Mills Co.; loss about \$100,000.—Factory of the McDonald Mfg. Co., King street west, Toronto; loss \$25,000, nearly covered by insurance.—The Forbes Mfg. Co.'s building and J. A. Leaman & Co.'s warehouse in Halifax, N.S., partially destroyed.—Manson's general store at Sintaluta, N. W. T.; loss \$6,000, insurance \$3,500.

#### CONTRACTS AWARDED.

**GREENWOOD, B. C.**—The National Tube Factory, of Chicago, are supplying the water pipe, fittings, hydrants, etc., for the waterworks system.

**SUTTON, QUE.**—The corporation has sold \$15,000 of waterworks bonds, bearing 3½ per cent. interest and maturing in

twenty-five years, to the J. C. Baker estate, Stanbridge East, at par.

**OTTAWA, ONT.**—The contract for iron work for the spires on the new roof of the Parliament buildings has been awarded to P. Latour.—Messrs. Band, Burritt & Meredith, architects, have awarded the contracts for several works on the rectory for St. Alban's church as follows. Masonry and brickwork, F. McCullough; carpenter work, T. A. Shore; plastering, Campbell & Sutherland; painting and glazing, Geo. Horne.

**PARRY SOUND, ONT.**—The contract for all trades, except painting, for addition to Masonic block, has been let to Geo. W. White. Mr. Wolton will do the painting. The plans were prepared by Mr. Henry Simpson, architect, Toronto.

**QUEBEC, QUE.**—John Thompson is building a two storey house on St. Foye street, near Maple avenue. The architect is Mr. Harry Staveley. The contract for masonry has been given to Mr. Sharp, and the carpenter work to Mr. U. L'Henreux.

**LONDON, ONT.**—Messrs. Moore & Henry, architects, have accepted the following tenders for the new Bell Telephone building: Masonry, brickwork and cut stone, Everitt & Sny; carpenter and joiner's work, Jones Bros.; steel beams, Dennis Wire and Iron Works; roofing, P. L. Marden & Co.; copper work, H. J. Boyd; plastering, Gould Bros.; painting and glazing, H. & C. Colerick; heating and plumbing, William Skelly; wiring, London Electric Co. Some architects have just closed contracts for a five storey brick warehouse and factory for Messrs. Sterling Bros., 40 x 110 feet, corner York and Clarence streets. John Hayman & Sons will do the masonry, cut stone and brickwork, and Jones Bros. the carpenter, joiner and structural iron work.

**TORONTO, ONT.**—W. Mashinter & Co. have been awarded the following contracts: Pumbing 622 and 624 Queen w. for Mr. Robt. Jaffray; plumbing in residence of H. Crawford Scadding, Bloor street west, residence of Mrs. J. E. Ellis, Huntley street, and store on King street east; hot water heating for Wm. Bohne, 159 Cowan avenue, and electric wiring in Inland Revenue Building, Toronto street.—The Board of Control on Monday last awarded contracts as follows: King street, brick pavement for track allowance, Sherbourne street to River, Dominion Paving & Constructing Company, \$6,183; Euclid avenue, cedar block pavement, Arthur to Robinson street, Dominion Paving & Constructing Company, \$3,107; Queen street, track allowance, brick, Niagara to Gladstone, Dominion Paving & Constructing Company, \$7,363; Sorauen avenue, brick, Construction & Paving Company, \$8,018; Queen street west, track allowance, Bathurst to Niagara, scoria block, W. F. Grant & Co., \$5,431.68. The contract for filling the filtering basin at the Island was awarded to George Phillip, at \$893.75. There were three other tenders, at \$942,

(Continued on page 4)

## THE HAMILTON BRIDGE WORKS CO., LIMITED.

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\$950 and \$1,273 respectively.—Messrs. Gordon & Helliwell, architects, have accepted tenders as follows for a store front on King street for George Coleman; Carpenter work, Thomas Hancock; hardware and brass trimmings, Aikenhead Hardware Co.; plate glass, McCausland & Son. For alterations to a store on King street east for Dr. Chaffec, to be occupied by Messrs. Simmers, seed merchants, the following tenders have been accepted: Carpenter work, plastering and metal work, Thomas Turff; masonry, William Halls & Son; heating, Wheeler & Bain.

#### ERRATUM.

In the CONTRACT RECORD of last week it was stated that the name of the Canadian Office & School Furniture Co., of Preston, Ont., had been changed to the Canada Office & Furniture Co. This was an error. The change of name should have applied to the Canadian Office & School Desk Agency, of Montreal.

#### BERLIN WATERWORKS ARBITRATION.

The town of Berlin, Ont., has recently assumed control of the waterworks, which were formerly owned and operated by a private company. The price to be paid by the municipality for the works was determined by arbitration, and amounted to \$102,000, which, strange to say, is exactly the estimate of value placed upon them by Mr. Willis Chipman, C.E., who acted as valuator for the corporation.

#### PUMPS FOR CONTRACTORS' USE.\*

(Continued.)

Another way is by means of a hand pump. In any case, a foot-valve should be provided at the bottom of the suction pipe to retain the water until the pump is started. Sometimes the suction is done away with altogether, by fixing the pump below the level of the water, or more rarely submerged in it. In the latter case a vertical centrifugal is used, the spindle projecting some few feet above the surface, its weight being carried either by an adjustable gunmetal footstep or by a thrust bearing. This arrangement has the advantage of doing away with initial priming, as the pump case is always full of water, consequently the discharge commences directly the spindle is revolved. If required, an extra length of shafting

\* J. L. Crathorne, in the Contract Journal.

may be coupled to the vertical spindle, the additional weight being taken by collars resting on the shaft bearings. In fixing this pipe care should be taken that the spindle is truly vertical, that the legs rest on an even foundation, and that the whole is firmly fixed. For working in difficult situations, the ordinary horizontal centrifugal may be obtained with a swivelling arrangement by which the pump, and with it the driving pulley, may be worked at any required angle without disturbing the suction. This plan works well in the small-sized pumps, but those of large capacity are apt to suffer in rigidity through its adoption.

**PULSOMETER PUMPS.**—These pumps, which are driven by the direct action of steam conveyed through a pipe, are specially useful in difficult situations where a belt-driven or other pump would be impracticable. The chief working part is a ball valve, which beats alternately on two seats. The pump consists, briefly, of two pear-shaped vessels, with necks joined in a single chamber. In this chamber there are two valve seats on which one ball valve beats. The action of the pump is very simple, the water being forced out of one chamber by the steam, which is then condensed, forming a vacuum, and draws the ball over, thus cutting off steam from the now empty chamber. Water now rises to fill this vacuum; meanwhile the same process is going on in the other chamber, and the action is continually kept up. As regards construction, all faces both inside and out should be machined. Grids of brass can be recommended, with planed surfaces, and bolted down on a planed face by bolts or studs, pitched all round the joint to ensure tightness. Rubber can be recommended for rendering the joints watertight. The foot valve may be of the ordinary grid type, but one of the three-lip form is to be preferred. With 50 lb. of steam, water can be raised by these pumps to a total height of about 80 ft., but with higher pressures this height can, of course, be exceeded. When the height to which it is required to force is too great for the available steam pressure, one pump may be used above another. If required, pulsometers may be worked

slung in chains, and steam may be conducted to them through flexible pipes, thereby allowing the pump to be raised or lowered without the trouble of stopping to alter steam-pipes. The absence of exhaust steam, which is a characteristic feature of the pulsometer pump, is a decided advantage in close situations, down shafts, etc. It has been rightly urged against the pulsometer method of pumping that the steam consumption is high; but when used in temporary operations, taking into consideration its special advantages not shared by any other pump, this objection is, perhaps, not of much account. Lately, however, an arrangement has been patented which enables the pulsometer to use steam expansively, to secure greater economy. This attachment is called the "Grel," and can be fitted to existing pumps. The makers state that these improved pumps will compare favorably in steam consumption with those of the direct-acting or fly-wheel type.

**FLY-WHEEL PUMPS.**—Though these

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scarcely come under the head of contractors' pumps, they are useful when clean water has to be forced to a considerable height. They should be of a massive construction, with long stroke and heavy flywheel, and the valves should be of ample area and of simple design, and both these and their seats should be removable for adjusting and repairs. An ordinary slide valve can be recommended for the steam-cylinder, and should be designed to cut off steam at a certain proportion of the stroke, so as to use steam expansively. The exact point of cut-off depends on the water pressure the pump has to work against. Fly-wheel pumps are sometimes constructed so as to be reversible; this is useful for freeing a checked suction pipe.

**ROTARY PUMPS.**—Another pump used to a limited extent by contractors is the rotary. It has the advantage of extremely simple construction, and has no valves except the usual ones in the suction and delivery pipes. One of the most suitable types of rotary pumps for contractors' use consists of an outer cast-iron casing, of which the interior is shaped to contain two circular cams with corresponding projections and indentations gearing together. These cams are mounted on spindles and driven in opposite directions, so as to approach each other from the top. The projections sweep round the circular face of the casing, creating a vacuum, which draws the water through an opening at the bottom; as the revolution continues, opposite cams come into action and force the water through the delivery opening at the top of the casing; the action is therefore continuous, and a constant stream of water is ejected. Unlike the centrifugal, the rotary pump does not require priming, and consequently is always ready for use. In the larger sizes the long teeth, or cams, should be packed with pieces of metal pressed outwards by springs, so that when worn a good vacuum may still be obtained. These pumps will pick up water up to 25ft. or 28ft. and force it to a considerable height, say 100ft.; a lower suction is, however, to be preferred, as the loss through "slip" is thereby lessened, and a greater discharge obtained. Plugs should be provided at convenient points of the case to drain off the water when not in use, to prevent freezing. The pump may also be emptied by turning it backwards a few times, providing the water is all out of the delivery pipe or held by the delivery valve.

(Concluded in next issue.)

John Burns & Co., plumbers, Montreal, have opened a branch store in Ottawa.

Charles T. W. and Sarah E. Piper have registered partnership under the name of C. W. T. Piper & Co., contractors, Montreal.

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# MUNICIPAL DEPARTMENT

## THE INFLUENCE OF PAVEMENTS ON PUBLIC HEALTH.\*

By A. W. CAMPBELL, Ontario Road Inspector.  
(Concluded).

In European practice, wood, more suited to a business street than macadam, affording a better foothold for horses than asphalt, less noisy than granite sets, is exceedingly popular, in spite of its less sanitary character. In this country, however, there is an unwillingness to renew a wooden pavement when decay has rendered it unfit for further use, and this, coupled with the less careful method of laying, is the cause of the complete disrepute into which it has fallen.

Experiments have been made recently by a Polish scientist with regard to cedar block. The bacteriological examinations showed that, in specimens taken from blocks which had been in use for four years, and from a depth of one centimeter and two centimeters below the surface, there were at the end of five days 650,000, 220,000 and 12,100 bacteria per gramme of wood. A later examination showed 1,200,000 colonies per gramme in the surface of the wood, and 8,699 colonies per gramme at two centimeters below the surface. An estimate, in terms of its nitrogen, was made of the organic matter absorbed by the wood, and indicated that the surface layer of wood contains more nitrogen than the most polluted soil. A comparative estimate of the pollution of the atmosphere was made by placing a definite quantity of sulphuric acid under a glass bell, on the surface of wooden and asphalt pavements, the result, as indicated by the quantity of ammonia absorbed by the acid, being much in favor of asphalt. The observations show that while a wooden pavement gives absolute protection to the soil and to the subsoil water, there was considerable atmospheric contamination. The experiments were made on blocks of pine, preserved by impregnation with copper sulphate. Such being the case with a wooden pavement laid under European practice, there can be little doubt of the unwholesome effect of cedar block upon the atmosphere. Further experiments of this description, conducted by members of your association, would doubtless prove instructive and profitable.

Broken stone or macadam would next arouse suspicion with regard to its absorbent qualities. There is this great difference between the two, however, that whereas a wooden pavement itself decays and affords food for the decay of other organic matter falling on it, the macadam does not in itself decay. With under-drainage, such as every well-built macadam possesses, it should be little more than a

good sewage disposal bed for the comparatively small amount of sewage which falls upon it. A macadam pavement can be scraped and swept, it is not noisy, dust can be subdued by sprinkling, and on sanitary grounds appears to be an excellent pavement for residential streets where traffic is not excessive. For business streets, or for heavily travelled thoroughfares of cities, a harder surface is advisable. With regard to absorption, there can be no objection to asphalt, vitrified bricks nor stone blocks. Asphalt is impervious to water, while the joints of brick or stone pavements are practically perfect so far as absorption is concerned.

To be sanitary, a pavement should not be dusty. The dust of a pavement is not only an irritant, but carries with it the bacteria of disease which, from various sources, are a part of street filth. To prevent dust, the pavement must be so perfectly cleaned that a practically harmless amount is taken up by the wind; or, if perfect cleanliness is not possible, dust must be subdued by sprinkling.

Unless perfectly cleaned—much more perfectly cleaned than is commonly the case in this country—an asphalt pavement is very apt to be a disagreeably dusty pavement on a windy day in summer. This, indeed, is one of its greatest faults from a sanitary standpoint. Toronto has the reputation of being a clean city, with a well-organized street department, yet even under these favorable conditions, a walk or drive down Yonge street on a warm, windy day is a very trying experience. The smooth, hot surface quickly dries any matter falling upon it, a wheel passing over this dry substance grinds it to powder, and the result is that clouds of dust find their way into the eyes, nose, mouth, throat and lungs of pedestrians. Business men in their offices are not safe from its attack, as it drifts in through the open windows. The dust imbeds itself in clothing, fastens itself on articles of food exposed in the shops, to be eaten finally by the purchaser. One case came to my notice in which a consumptive patient was ordered by his physician to leave Jarvis street, one of the best residential streets of Toronto, because of the dust which came from the asphalted roadway. These streets are swept by machines, and are hand-swept by a corps of city employees, but are not to my knowledge flushed as are similar pavements in London and Paris. Flushing is the only method whereby asphalt can be freed from this unsanitary dustiness, but in addition to being expensive and hurtful to the asphalt, such a proposal will doubtless meet the disapproval of the engineer in charge of sewers. The dust, however, is not a defect of the pavement so much as it is a fault in the method of cleaning.

Asphalt has, nevertheless, the disadvantage of being a very hot pavement. Its smooth surface, reflecting back the heat and light, is productive at times of sun stroke, and the glare is frequently painful to the eyes. This is most noticeable in

closely built business sections where there is least circulation of air, where the sun beats down between high brick walls; and is not so objectionable on a shady residential street with houses well apart.

Vitrified brick and stone block pavements are neither so dusty nor hot as asphalt, since the surfaces are less smooth and assist in retaining in the joints the finer particles of dust. Sprinkling, too, is in a great measure effective in subduing dust on brick or stone block than on asphalt, from the hot smooth surface of which moisture evaporates rapidly. A macadam pavement is dusty if not properly treated, but if scraped and swept as are other pavements, the dust can be largely subdued by sprinkling.

Noisiness, if excessive, is another unsanitary feature. A noisy pavement is jarring to the nerves, grating upon the sensibilities, and for either a heavily travelled business street, or a residential quarter, a quiet pavement is much to be desired. Noise itself is not always unhealthy. It is doubtful if the workman in a boiler factory, or a railroad engineer or other employee, is much influenced by the noise incidental to his occupation. Both are muscular of body, constantly taking vigorous exercise. But to the more sedentary man of business, whether at high nervous tension in his office or resting in the quiet of his home, a din, constant or intermittent, is a source of annoyance, and as such, is wearing on the nervous system. The most objectionable in this regard is granite or other stone block pavement. Vitrified brick is apt, unless great precautions are taken, to create a disagreeable rumbling. Asphalt, wood and macadam are the least objectionable with respect to noise.

While we have this to say of the comparative healthfulness of different varieties of pavements, there is another condition of matters common to too many towns and cities, in which the streets in fall and spring form a wilderness of mud and stagnant pools, and in summer are shapeless beds of dust. Many of them are made the receptacles of the refuse from private property which is left to disfigure the street, forming rivers of filth and cesspools of disease. Such streets have been regarded as a zero quantity, doing no particular harm, doing no particular good. Streets, however, which do no good, should do good, and therein lies the harm. A good street is a well-drained street, a well-cleaned street, and a source of healthfulness to the members of the community. Streets should be the public parks, pleasing to the cultivated taste, adding to the culture and refinement of the people, and enticing them out to breathe health and vigor, whether walking, bicycling, riding or driving. Passing along the city street we reach the country highway, which, as a means of permitting the people of the city to leave the congested portions and to reside in the less thickly populated suburbs, forms an important factor in securing public health.

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Hemlock scantling and joist up to 18 ft.....	11 00	2 00	12 00	13 00
Hemlock scantling and joist up to 20 ft.....	12 00	13 00	13 00	14 00
Cedar for kerbing, 4 x 14, per M.....	14 00	14 00		
Scantling and joist, up to 16 ft	14 00	14 00	14 00	14 00
" " " " 8 ft	15 00	15 00	15 00	15 00
" " " " 10 ft	16 00	16 00	16 00	16 00
Scantling and joist, up to 22 ft	17 00	17 00	17 00	17 00
" " " " 24 ft	19 00	19 00	19 00	19 00
" " " " 26 ft	20 00	20 00	21 00	21 00
" " " " 28 ft	22 00	22 00	23 00	23 00
" " " " 30 ft	24 00	24 00	25 00	25 00
" " " " 32 ft	27 00	27 00	27 00	27 00
" " " " 34 ft	29 50	29 50	29 50	29 50
" " " " 36 ft	31 00	31 00	31 00	31 00
" " " " 38 ft	33 00	33 00	33 00	33 00
" " " " 44 ft	35 00	35 00	35 00	35 00
Cutting up planks, 1 1/2 and thicker, dry.....	25 00	28 00	25 00	30 00

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1 1/4 in. flooring, dressed, F. M.	34 00	36 00	28 00	37 00
1 1/4 inch flooring, rough, B. M.	18 00	22 00	18 00	22 00
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1 1/4 " " undressed, B. M.	18 00	19 00	18 00	19 00
1 " " dressed.....	18 00	20 00	18 00	22 00
" " undressed.....	12 00	15 00	12 00	15 00
Beaded sheeting, dressed	20 00	35 00	22 00	35 00
Clapboarding, dressed.....	14 00	8 00	12 00	12 00
XXX sawn shingles, per M				
16 in.....	2 40	2 35		3 00
XX sawn shingles.....	1 60	1 50		
Sawn lath, No. 1.....	1 75	2 00	2 50	2 60
Cedar.....		2 90		
Red oak.....	30 00	40 00	30 00	40 00
White.....	37 00	45 00	35 00	55 00
Basswood, No. 1 and 2.....	28 00	30 00	18 00	20 00
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(Continued on Page 8.)

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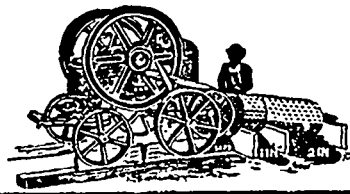
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Table listing prices for various types of cement and lime.

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HARDWARE.

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Table listing prices for cut nails and steel.

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