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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF THE CONTRACT RECORD

PUBLIC WORKS • TENDERS • ADVANCE INFORMATION • AND MUNICIPAL PROGRESS

EVERY THURSDAY

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

VOL. 6.

MARCH 14, 1895

No. 6.

THE CANADIAN CONTRACT RECORD,

PUBLISHED EVERY THURSDAY

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

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TENDERS WANTED

Propositions for sinking an artesian well or wells at the village of Alexandria, stating terms per foot of depth, will be received up to the 20TH DAY OF MARCH, 1895. Address to undersigned.

D. A. McDONALD,
Reeve.

Alexandria, Feb. 21st, 1895.



Sealed Tenders addressed to the undersigned, and endorsed "Tender for Severn River Work," will be received at this office until FRIDAY, THE 15TH DAY OF MARCH next, inclusively, for work to be done in widening the outlets of Lake Couchiching, Ontario, according to a plan and specification to be seen at the Post-Office, Washago, and at the Department of Public Works, Ottawa.

Tenders will not be considered unless made on form supplied, and signed with the actual signatures of the tenderers.

An accepted bank cheque, payable to the order of the Minister of Public Works equal to five per cent of the amount of tender, must accompany each tender. This cheque will be forfeited if the party decline the contract, or fail to complete the work contracted for, and will be returned in case of non-acceptance of tender. The Department does not bind itself to accept the lowest or any tender.

By order,
E. F. E. ROY,
Secretary.

Department of Public Works,
Ottawa, 12th Feb., 1895.

DRAW LIME KILN FOR SALE

With fine white limestone quarry; shipping facilities unsurpassed. Address Drawer 37, Warton, Ont.

TO CONTRACTORS

Tenders for the construction of a Dam and Flume on the River Moira, on the property owned by the Belleville Gas Company, in the Township of Thurlow, adjoining the City of Belleville, according to plans to be seen at my office, Bridge Street, Belleville, will be received up to noon of SATURDAY, MARCH 30TH. The lowest or any tender not necessarily accepted.

J. LYONS BIGGAR,
Secretary Belleville Gas Co.

TENDERS

Will be received until March 30th, by the Chairman of the Kingston Water Works Committee, for a

Four Million Gallon Pumping Engine

the contractors to provide their own plans and specifications and state their duty. Water pressure, 80 lbs.; suction lift, 7 lbs. The lowest or any tender not necessarily accepted.

T. HEWITT, Superintendent.

TENDERS

Sealed tenders, marked "Tender for School," will be received until April 2nd next, at noon, for the several works required in the erection of a large

BRICK SCHOOL HOUSE

in the Village of Norwich. The mason and carpenter work may be tendered for together or separately. Plans and specifications can be seen at my office. The lowest or any tender not necessarily accepted.

H. S. MOORE,
Secretary Public School Board.

Norwich, Ont., March 12th, 1895.

MAUSOLEUM

Tenders for the labor and materials, including

CUT STONE,
GRANITE COLUMNS,
STONE-CARVING,
STATUARY,
TILE FLOORING,
BRONZE GATES, and
STAINED GLASS,

for a MEMORIAL VAULT at London, Ont., are invited until March 30th, 1895.

MOORE & HENRY,
Architects.

The Kingston Chemical Engine Co. have published a catalogue, in which is described and illustrated the Wilson patent chemical fire engine, of which they are the makers, and for which they claim special advantages. A copy of this catalogue may be had by addressing the Company at Kingston, Ont.

CONTRACTS OPEN.

BRUSSELS, ONT.—S. Hoggard intends erecting a new brick house.

COATICOOK, QUE.—T. T. Shurtleff will erect four new stores this spring.

PETROLEA, ONT.—The Council will provide an electric fire alarm system.

BRANTFORD, ONT.—The School Trustees have accepted the plans of Mr. E. B. Jarvis, architect, of Toronto.

NIAGARA, ONT.—A reservoir will probably be constructed by the town, at a cost of upwards of \$50,000.

WALKERVILLE, ONT.—Hiram Walker & Sons contemplate the erection of a large tobacco factory here.

KINGSTON, ONT.—The Kingston Light, Heat & Power Co. will purchase additional dynamos and engines.

WESTVILLE, N. S.—The Council has voted the sum of \$60,000 for the construction of a system of waterworks

NORTH BAY, ONT.—A by-law is to be introduced in Council providing for a waterworks system for the town.

DUNDAS, ONT.—The by-law to raise the sum of \$5,100 for the building of bridges has been carried by the rate-payers.

GRAVENHURST, ONT.—The establishment of systems of waterworks and electric light is under consideration by the Council.

MIDLAND, ONT.—The Town Council will engage an engineer to locate a site for a dry dock 400 feet long, 16 feet deep and 50 feet wide.

ODESSA, ONT.—Tenders will be asked for shortly for a new building to be erected here, according to plans of H. G. Paull, architect, Toronto.

LINDSAY, ONT.—The Town Council have decided to assist in building a bridge over Connell's Creek, on the township line, between Eldon and Thorah.

BELLEISLE, N. B.—The local government will at once ask for tenders for the construction of a wharf at Gray's Point, and the work will be carried out this season.

WOODSTOCK, ONT.—Mr. Wilson, of New York, is making arrangements to build a large residence this summer at the corner of Vansittart ave. and Admiral street in this town.

BROCKVILLE, ONT.—Tenders are invited by the town until Monday, the 18th inst. for the purchase of about \$23,000 of debentures. Address John Stagg, Chairman Finance Committee.

NIAGARA FALLS, ONT.—The Suspension Bridge Co. has forwarded the plans for the proposed new steel arch bridge to England, for the approval of the English directorate of the Grand Trunk.

BRAMPTON, ONT.—Tenders are invited by the corporation until the 30th of March for the erection of a new bridge at the corner of Main and Wellington streets,

tenders to be for entire wood structure with pile foundation also for steel or iron structure, with stone or concrete foundation. Plans to accompany tenders, which are to be addressed to Wm. Peaker, Chairman Road Committee.

PORT HOPE, ONT.—It is reported to be the intention of the management of Trinity Medical school to invite competitive designs for their new building which is to be erected on the site of the old one.

PEMBROKE, ONT.—Tenders are invited by W. C. Irving, Chairman Waterworks Committee, until the 28th inst., for furnishing waterworks supplies, including galvanized iron pipe, lead pipe, fittings, etc.

AYLMER, QUE.—At a recent meeting of the Town Council it was decided not to entertain the proposition of Mr. Poupore to enlarge the capacity of the waterworks system, at an additional expense of \$22,000.

QUEBEC, QUE.—In accordance with the conditions of the payment of the Rose bequest of \$150,000 to the Jeffrey Hale hospital here, a new building is shortly to be erected by the governors for the use of the hospital.

PICTON, ONT.—Applications for the position of electrician and fireman to operate the waterworks and electric light systems are invited by the town until the 15th inst. Particulars may be obtained from the Town Clerk.

TRURO, N. S.—A meeting of ratepayers has been called by the town clerk, W. D. McCollum, for the 18th inst., for the purpose of considering the advisability of borrowing the sum of \$12,000 for the erection of a poor house and cottage hospital.

VICTORIA, B. C.—The authorities here have granted the use of the portion of the market building as a shelter house and officers' quarters for the Salvation Army, and Herbert G. Paull, architect, of Toronto has prepared plans for remodelling the place forthwith.

LUNENBURG, N. S.—Geo. H. Love, Town Clerk, invites proposals until the 29th inst., for the purchase of \$25,000 of debentures, bearing interest at the rate of 4½ per cent. per annum, and issued for the erection of a new academy building. Tenders for the work have not yet been invited.

CHATHAM, ONT.—The Council has decided to engage a competent engineer to prepare plans and an estimate of the cost of a system of waterworks for the town, also to receive tenders until the 18th inst., for paving of Queen and Fourth streets, and for the construction of granolithic walks throughout the town.

HALIFAX, N. S.—The Halifax Electric Tramway Company has been incorporated for the purpose of acquiring the street railway and converting it into an electric road. Among the promoters are H. M. Whitney, of the Dominion Coal Company, G. B. M. Harvey, of Boston, and James Ross, of Montreal.

NEW WESTMINSTER, B. C.—The Coquitlan bridge at this place will probably be rebuilt shortly.—It is expected that the erection of a new drill hall in this city will be proceeded with at an early date. At the last session of the Federal Government the sum of \$11,000 was voted for this purpose.

HAMILTON, ONT.—W. A. Edwards, architect, is asking for tenders until Saturday next for the erection of a brick residence for J. E. Vanderzer, of Winona.—The Finance Committee of the Board of Education have decided to recommend that the Council be asked to issue debentures to the extent of \$20,000, to complete the two new schools in course of erection.

WINDSOR, ONT.—The local architects have prepared plans for a large number of residences to be erected this season. Daniel Scotten of Detroit has decided to

build a four-storey block on the corner of Ouellette avenue and London street, to cost \$40,000. John Curry will erect a \$50,000 building on the east corner of London street and Ouellette avenue.

GANANOQUE, ONT.—The Board of Education will ask the Council for \$15,000 to build a new High School building.—Mr. Ellis, architect, of Kingston, is preparing plans for a row of brick buildings to be built in this town. They will be three storeys high and contain two stores and the Merchants' bank. The upper storeys will be used for offices, dental rooms and Mechanics' Institute.

MONTREAL, QUE.—The City Council will probably ask for tenders for gas lighting.—Tenders are invited by the Verdun Council, until Monday, the 25th inst., for the construction of a dyke along the river. The work is estimated to cost about \$70,000. Plans may be seen at the office of the engineer, Mr. James Adam, and tenders are to be addressed to the Secretary-Treasurer, Mr. N. T. Rielle, room 709, New York Life Building, this city.—At the last meeting of the Municipal Council of St. Louis du Mile End, it was resolved to drain the entire municipality with an improved system. The work will take several years to accomplish, as the drain must be cut in rock, which will require heavy work and considerable blasting. Thus far the Council have spent \$167,000 on drainage improvements, and it is estimated that before the municipality is thoroughly drained the cost will reach \$1,000,000.—The competition for plans for the Westmount Methodist church has been won by Arthur J. Cooke, architect.

WINNIPEG, MAN.—At a recent special meeting of the school-board a by-law to raise \$60,000 by debentures for the erection of school buildings was passed and ordered to be forwarded to the City Council for the purpose of having it submitted to a vote of the ratepayers.—The Committee on Works has recommended that power be applied for to enable the city to raise \$15,000 by issue of debentures without submitting a by-law to the people, to erect a traffic and passenger bridge over the Canadian Pacific railway yards at some point west of Princess street.—The Masonic building committee are consulting local architects regarding plans for their proposed new building, but no appointment has as yet been made.—The Council will construct a sewer on Hargrave street, from Graham avenue to St. Mary avenue, from Hargrave to Carlton street, at a cost of \$1,900.—Herbert G. Paull, architect, Toronto, has prepared plans for the new quarters here of the Salvation Army and work will be commenced immediately.

OTTAWA, ONT.—Car shops for the Ottawa, Arnprior and Parry Sound Railway will be constructed here this summer. Mr. J. R. Booth states that six or seven shops will be built this season on the 12 acre property recently acquired on Concession street and other buildings would be erected later on. The largest of the buildings to be built this year will be 70 feet wide and 300 feet in length. Another building will be 70 by 200 feet. A large round-house will be constructed, capable of housing a number of locomotives. The building will be fireproof, the walls of stone and concrete and the roofs of iron and steel. Steel girders will be used in all the buildings.—The survey of the line of the electric railway along the Aylmer road from Hull to Aylmer has been completed. Mr. Rainboth, C. E., is now surveying an alternative route along the river bank.—The question of expending the sum of \$45,000 in improving the city's fire apparatus is under consideration by the Council. It is proposed to expend the money as follows: new station, land, etc., \$30,915; fitting central station with chemical engine, \$5,695; moving and equipping Conqueror, \$2,205; spare reel,

extra hose, \$2,535; new station in Ottawa ward, \$5,500.—The erection of a medical college in connection with the city hospital is being advocated. Bequests, amounting to \$40,000 are now available for the purpose.—The Department of Railways and Canals is making arrangements for inviting tenders for another section of the Trent Valley Canal. Eleven miles have yet to be constructed, 3 miles being in the Lake Simcoe and Balsam Lake division. Preparations for the work are in an advanced state, and tenders will be asked in a short time.—W. C. Edwards & Co. will erect an incinerator to burn the sawdust from the mills. It will be of brick and stone, 20 feet in diameter and eighty feet in height, and will be completed about the 1st of May.

LONDON, ONT.—Tenders will probably be asked for during the present week for the reconstruction of the Queen's avenue Methodist church.—At the last meeting of the Hospital Trust, plans for a new operating room were submitted by Fred Henry, architect. The plans were approved of, and the architect was instructed to receive tenders.—The Building Committee of the Dundas street Methodist church are said to have received about twenty-five applications for conditions of competition for plans for their proposed new building. It is estimated that the cost of erection will be upwards of \$40,000, and the architect whose plan is accepted is offered one per cent. on the total cost.—Tenders are invited at the City Engineer's office until 6 p.m. to-day (Thursday) for the building of vaults and making alterations to the city-hall.—McBride & Farncombe, architects, are preparing plans for a handsome residence for R. Pickard, of Exeter.—Albert Smith will erect a \$6,000 residence opposite Victoria Park this season, the contract for which will shortly be let.—Tenders will be received at the Waterworks office until Tuesday, the 18th inst., for the following supplies required by the waterworks department: Cast-iron pipe, trenching and pipe laying, lead pipe, brass goods, hydrants, valves, valve boxes, iron castings, stop-cock boxes, hardware, coal, lumber, illuminating and lubricating oils. Specifications may be seen at the office of Moore & Henry, architects, Albion Buildings.—No. 1 Committee of the Board of Education has recommended that the following additional school accommodation be provided: Four-roomed school on Richmond street, four-roomed school near corner of Colborne and South streets, two rooms at Wortley road school, six-roomed school on Askin street, and two rooms at St. George street school. To make provision for the near future it is recommended that a site near the corner of Oxford and William streets be purchased, on which a two or four-room school should be erected as soon as the funds can be procured, and also lots to the south of Talbot street school, or near corner of Talbot and Oxford streets, on which a two or four-room school should be erected at once if possible.

TORONTO, ONT.—Herbert G. Paull, architect, 106 Wellington Place, is receiving tenders for houses on Davenport road.—A number of designs were recently submitted in competition for the Foresters' building to be erected at the northwest corner of Bay and Adelaide streets. It is understood that one of the designs submitted by Mr. Geo. W. Gouinlock, of this city, has been chosen. The building will be six or seven stories in height.—The City Engineer has reported unfavorably on the question of erecting an overhead bridge at Lansdowne avenue crossing.—Mr. Edmund Burke, architect has received instructions to prepare plans for rebuilding Mr. Robert Simpson's store at the corner of Queen and Yonge streets.—The Public School Board has requested the Property Committee to provide increased school accommodation as follows:

one room at Kew Beach school, four rooms at Morse street, Winchester, Dufferin, Rosedale, Ryerson, Palmerston avenue, and Gladstone avenue schools, six rooms at Borden street school and Queen Victoria school, and two rooms at Brock avenue and Clinton street schools. The estimated cost is placed at \$110,000, which amount the City Council will be asked to place in the estimates for the year.—It is probable the spire of Knox church, which was destroyed by the recent fire, will be rebuilt. The bell which was destroyed weighed slightly over a ton and cost \$900, but the total loss is covered by insurance.—It is proposed to erect a wagon shed at Agnes street police station at a cost of \$1,300.—The proposed new police station at Centre Island will cost \$850.—The City Commissioner estimates that it will cost \$2,000 to repair the buildings on the approaches to Yonge street wharf.—J. J. McLaughlin has decided to rebuild his mineral water factory on Sherbourne street as soon as the weather permits. Electric power will be used instead of steam as formerly.—The statement has been published that within the last few days Mr. S. F. McKinnon had decided on the erection of a large hotel on the northeast corner of York and Wellington streets, at a cost of \$500,000, and that the plans had been prepared by Mr. E. B. Jarvis. Mr. Jarvis states that plans were prepared some time ago for a large hotel, but that no further steps have been taken in the matter and consequently no decision to erect the building has as yet been reached.—The supplementary estimates of the Parks and Gardens Committee provide for an expenditure of \$1,700 in Queen's avenue improvements, \$2,802 in improvements in Queen's park, and \$10,000 for new sheep and pig pens at the Exhibition grounds.—In his fortnightly report presented to the Board of Works on Monday, the City Engineer recommended a brick pavement on concrete on Henry street, cost \$8,460, a brick pavement on concrete on Ross street, cost \$4,840, a brick pavement on concrete on D'Arcy street, from Spadina to McCaul, cost \$14,370, and a cedar block pavement on Nassau street, from Spadina to Bathurst, cost, \$4,360. The items passed the Board.—The estimates of the Works and Waterworks departments were presented at the meeting of the Board of Works on Monday. Among which were the following items: Works department, roadways, \$57,000; repairing intersections and asphalt pavement and repairing plant, \$11,000; sidewalks and crossings, \$30,500; repairing track allowances, \$6,000; bridge repairs, \$9,800; bridge at Cherry street, \$4,500; dredging slips, \$3,000; level crossings, \$3,000; steam road roller, \$3,500; dredge, \$18,000; ramp John st. bridge, \$10,000; city's share York street bridge, \$60,000. Waterworks department, new six foot steel intake pipe to replace the present wooden conduit, \$75,000; tunnel under the bay, \$450,000; 36-inch main to reservoir, from intersection of Bathurst and College streets, \$135,500; 24-inch main on Front street, from Simcoe to Sherbourne street, \$40,000; branch pipes and feeders, \$22,400; 12-inch main on Avenue road, from Bloor street to Davenport road, \$5,500; connecting district east of Don and north of Gerrard street to high level district, to give better fire protection, \$2,600; replacing 4-inch mains in Parkdale by larger mains, \$20,000; construction and renewals, \$98,045. The estimates of the Works department were considered by the Board and reduced by \$13,690; those of the Waterworks branch will be considered at a special meeting to be held shortly.—A boiler for the Island lighting plant, to cost not more than \$1,000, will be advertised for.—Building permits have been granted as follows: M. S. Kellow, 247 Brunswick ave., pr. 2 story and attic bk. dwellings, 257 Howland ave., cost \$5,000; Jas.

Mannell, improvements to Tremont House, Yonge st., cost \$3,000; Henderson & Small, agents, 3 storey add., rear 440 Yonge st., cost \$2,300; Alex. Manning, rebuilding and add. storey to building, n. w. cor. Yonge and Melinda sts., cost \$10,000.

FIRES.

The machine shop of E. W. Stickney's agricultural works at Newbury, Ont., was totally destroyed by fire on the 8th inst. Loss, \$10,000; no insurance.—The Farnham Hotel at Farnham, Que., was destroyed by fire on Monday last, together with the adjoining building. The buildings were the property of E. Archambault, and are a total loss. Loss, \$7,000; insurance, \$4,000.—The residence of Mr. Goodyear, at Stonewall, Man., has been burned.—T. G. Lynde & Co.'s tannery building at Madoc, Ont., was burned last week. Loss, \$2,000; insurance, \$1,000.

CONTRACTS AWARDED.

YARMOUTH, N. S.—The contract for the erection of the new Baptist church here has been awarded to J. Treen.

MONTREAL, QUE.—W. McLea Walbank, architect, has awarded the contract for the furnishing and the interior woodwork of J. Palmer & Son's store to Tees & Co.

STRATFORD, ONT.—James Dunn has been awarded the contract for the masonry work of the new fire hall, at the price of \$1,782, and John Becker the carpenter work, at \$1,212.

MONCTON, N. B.—The Council has accepted tenders for fire hose as follows: Toronto Rubber Co., 500 feet new surprise double jacket at 70 cents per foot; Gutta Percha Co., 500 feet rubber lined Baker fabric at 90 cents. The other tenderers were T. McAvity & Sons, St. John, and Revere Rubber Co., Boston.

HILLSBURG, ONT.—The contracts for building a Presbyterian manse here have been awarded as follows: Brick-work, Puckering & Robinson; stone-work, Martin & Rodgers; carpenter-work, Rowan Bros.; painting, Fuller & Allen; tinsmithing and plumbing, Henry McClellan. The plans were drawn by Mr. Bailey, of Orangeville.

TORONTO, ONT.—The Board of Works have accepted the following tenders for paving the track allowance on Avenue road: Construction and Paving Co., from Bloor street to Davenport road, asphalt and scoria block, \$11,112; asphalt and granite sets, \$10,278; D. L. VanVlack, from Davenport road to C.P.R. tracks, cedar blocks on concrete, with granite toothing, \$3,220.

BUSINESS NOTES.

F. Mongeon & Fils is a new firm of contractors and joiners in Quebec City.

Thompson & Morrison, plumbers, Amherst, N. S., have been succeeded by C. A. Lusby & Co.

McCurdy, Wilson & Hill, builders and manufacturers of furniture, Truro, N. S., have assigned, with liabilities of \$6,000.

J. W. Kellar & Co., manufacturers of sewer pipe, cement, etc., Victoria, B. C., have recently commenced the manufacture of floor and hearth tiles.

John Edington, formerly engineer of the Moncton, N. B., Water Co., has been appointed to fill the same position under the city's management of the waterworks.

It is said the firm of C. B. Wright & Sons, cement manufacturers, of Hull, Que., have arranged a settlement with their creditors which will enable them to resume business at an early date.

The new glass works at Wallaceburg, Ont., are expected to commence operations

about the end of April. The officers of the company are: President, Capt. J. W. Steinhoff; vice-president, Dr. Geo. Mitchell; secretary-treasurer, Mr. A. G. Laird; directors, Capt. Jno. Scott and Messrs. D. A. Gordon, Harry Martin, J. H. Fraser and Harvey Morris. The superintendent is Mr. R. Davis.

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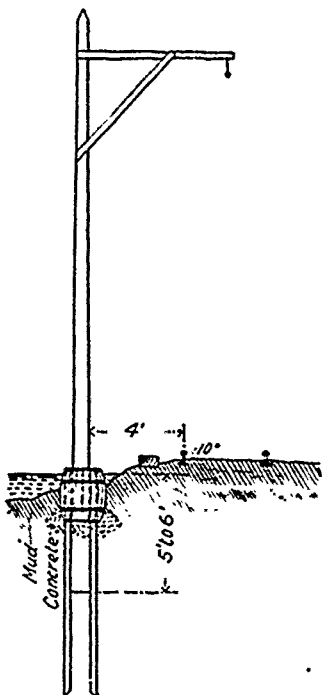
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In the construction of the Negaunee and Ishpeming electric railroad and of the Marquette and Presque Isle road in Michigan, some difficulty and expense was anticipated in setting the poles where it was necessary to locate them in the edge of the lake in shallow water and soft mud. Pile driving was not practicable, cofferdams were too troublesome and slow, iron caissons were too costly, and ordinary dredging was impossible. Finally the best empty oil barrels that could be procured were purchased, and after removing both heads were driven down solidly to about water level. Then the soft mud and clay was scooped out as much as possible and the pole set up on end in the barrel and worked down by hoisting and racking as far as it would go, usually 5 or 6 feet. A 2" x 10" stick was then driven with mauls each side of it, their flat sides against the pole and their bottom ends beveled to draw apart. When they were all in place the barrel was pretty well filled up by them. The pole was securely guyed and the mud again scooped out of the barrel and the water pumped down as low as



CHEAP ELECTRIC POLE FOUNDATIONS.

possible, when about 30 pounds of dry cement was thrown in the bottom, and on top of that enough concrete, one-half small stone, was put in to fill up the barrel. After it had set a few days the guys were removed and the pole remained very firm and rigid. Some that were cut out showed excellent solid concrete extending nearly a foot below and around the barrel, as shown in the figure, when the dry cement had been pushed out and mixed with the surrounding sand. When very small barrels were used it was found better to drive the 2x10 sticks before setting the post. When the poles were used for span work they were battered excessively, up to 1 in 3, but for bracket work they were battered about 1 in 10. The cost was: Barrel, 60 cents; cement, 50 cents; lumber, 75 cents; labor setting barrel, 50 cents; driving posts, 40 cents; setting and concreting pole, 40 cents; total, \$3.25. About 1 mile of poles were set thus in 1890, and are reported to have given complete satisfaction ever since. The above description has been prepared from the notes of Alexander Thompson, C. E., then resident engineer of the work, who devised the arrangement.—Engineering Record.

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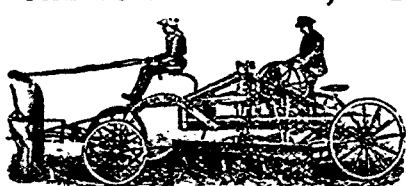
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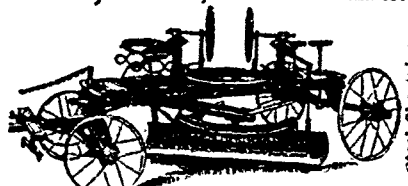
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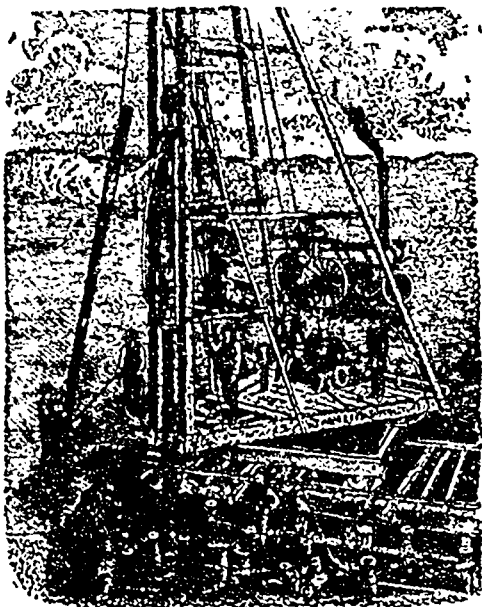
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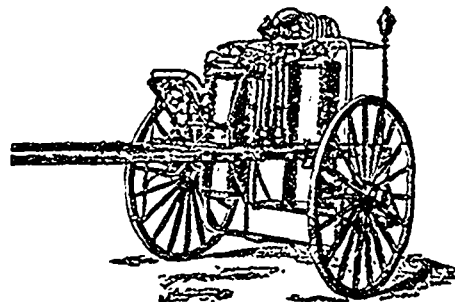
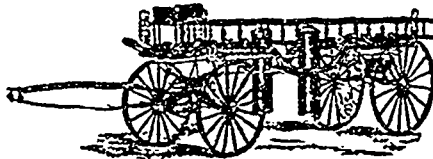
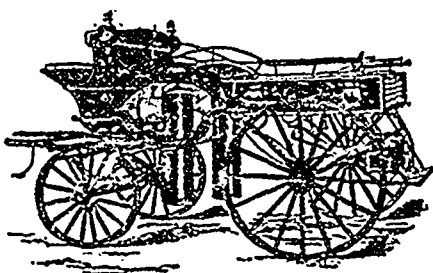
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MUNICIPAL DEPARTMENT

GOOD STREETS.*

BY HERBERT J. BOWMAN, Town Engineer,
Berlin, Ont.

A great movement has arisen during the past few years for "Good Roads." It is the purpose of the writer in this paper to touch upon the kindred question of "Good Streets," keeping in view, more particularly, the needs of the villages, towns, and smaller cities of Ontario, and it is hoped that the discussion by the members of the Association will contain much valuable experience gained throughout the province.

LOCATION.—A few of the older town sites were laid out by the government usually where, at the time of the survey of the district, a considerable population had gathered. In this way the town of Niagara (formerly Newark), at one time the seat of the Government, came to possess its broad and well located streets. Later on the Canada Company, when subdividing its wild lands in the province, also laid out sites for future towns, that on which the City of Stratford now stands being one planned by their surveyors. However, a great many of our present population have never had the advantage of any well considered plan for the location of the streets. At some water privilege a grist mill was perhaps first built, soon to be followed by a blacksmith's shop, a general store, a hotel, and a few dwelling houses, located on a more or less direct trespass road leading to the nearest Government road allowance. This road has probably for years been all that the hamlet required till the advent of a railway brought a demand for more building lots. Some enterprising owner of adjoining lands then decided to supply the demand and located new streets as he thought best, to enable him to sell his lots. Fortunately during the last forty years, our laws have required that before deeds of these lots should be registered, a plan, prepared by some provincial land surveyor, should be filed in the Registry office. Thus the land owner had the assistance of a more or less competent man, whose advice, however, he was free to follow or disregard. Usually the owner's object has been to get the greatest number of lots out of a given area with little consideration for the future, and so we often see new streets laid out without any regard to existing streets, or to future extensions and without any examination as to grade or drainage. It is high time that this lack of system be remedied and the writer would suggest that all plans be assented to by the Municipal Council before they may be filed, and not, only those showing streets of less than standard width, as the law now is.

WIDTH.—The Registry Act now requires that all plans with streets of less than the standard width of 66ft. must be assented to by resolution of the Municipal Council, but this assent is far too easily obtained by an influential land-owner. A by-law of the council should be required to be carried by a two-thirds vote at its third reading, before any plan showing new streets is filed; and where the width is less than 50 ft. it should be confirmed by the County Council, as is now required when a Township or Village Council opens up a street less than 66ft. in width.

A greater width than 66ft. is seldom required even for a busy city street, and for residential streets 60ft. is an ample width and probably 50ft. is sufficient in most cases, as the tendency in the country towns is to allow the untravelled portion to become overgrown with grass and weeds; however, with streets as narrow as this, a "building line" should be laid down on every plan, say 25 feet from the street line, so that the rows of houses would really be 100 feet apart on a 50ft. street. Where comparatively narrow streets are laid out, the owner of the property can afford to dedicate an occasional square or gore as a public park, and as years roll by these will be the "lungs" of the future city.

CROSS-SECTION.—A business street should have sidewalks at from eight to twelve feet in width slightly inclined towards the gutters. At the edge of the walk there should be a nearly vertical curb separating the walk from the carriage way which occupies the balance of the street surface. A residential street unless calculated for street car tracks, does not require more than twenty-four feet between the curbs for the carriage way and from four to six feet will be wide enough for the walks, while the remainder of the street service should be sodded. In some cases the walk is placed upon the property line and separated from the carriage way by the sodded portion, while in others the walk is placed along the curb, and again in some few cases the walk divides the sodded portion into two parts. When the walk is placed along the curb, the sodded portion really becomes, to all intents and purposes, a part of the adjacent property and as such will undoubtedly have better care taken of it, and if a row of shade trees is planted between the walk and the houses, no unsightly fences will be required, and in addition the trees will not be damaged by being used as hitching posts for horses. However, the chief advantage is that in streets having a "titled" cross-section it is much easier to fit in the street grade to suit the properties, and it is also easier to arrange street intersections when the walks are along the curb lines.

GRADE.—In very few of our towns is the attempt made to fix the grades on streets; hence a person about to erect a building is unable to form any idea of the proper elevation at which to put the ground floor so that it may conform with the finished surface of the street, and it is a common occurrence to find buildings

too low and others set ridiculously high in order to be out of harm's way. Every village, town and city should have the grades of its principal streets fixed by by-law, as this power is apparently given to every Municipal Council by the Municipal Act (Sec. 550), which provides that councils "may pass by-laws for opening, making, preserving, improving, repairing, widening, altering, diverting or stopping up roads, streets, squares, alleys, lanes, bridges, or other public communications, and for entering upon, breaking up, taking or using any land in any way necessary or convenient for the said purposes; for setting apart and laying out such portions of any such roads, streets, squares, alleys, lanes, bridges or other communications, as the Council may deem necessary or expedient for the purpose of carriage ways, boulevards and sidewalks, or for the improvement or beautifying of the same!"

SIDEWALKS.—Wood has until recent years been the usual material used in the construction of sidewalks, although expensive stone flagging has been used to a limited extent in the larger cities. A mixture of coal-tar and gravel, erroneously called asphalt, has been tried in a number of places but usually with poor results. However, since the general introduction of Portland cement, it has become possible, with the addition of sand and gravel only to make artificial stone walks that are satisfactory in every respect, and the cheapest of all walks when the lifetime is considered. A harder and more durable walk is made with crushed granite instead of sand, in the wearing surface, but it has the disadvantage of being very slippery under certain conditions.

CURB.—On gravelled or macadamized residential streets cedar planking forms an inexpensive curb, but where a more permanent roadway is to be constructed, stone curbing should be used. The writer however, sees no reason why artificial stone curbing of superior form and capable of being laid with closer joints, could not be made at half the cost of cut stone.

ROADWAY.—In the majority of towns having good gravel close at hand this material continues to be used for the surfacing of all except the busiest streets, as a good gravel roadway thoroughly tile drained can be made for 25 cents per square yard. For streets having more traffic a good macadam roadway with stone foundation can be laid for less than 40 cents per square yard provided suitable stone may be obtained within 50 miles by rail. Wood as a paving material for roadways is now practically out of the field. In our larger cities there is a demand for a roadway with a minimum of dust and dirt and a smooth surface. A concrete foundation is the first requisite and on top of this the surfacing material is placed. Asphalt at the present time is very popular, but the cost is great, being from \$2 to \$2.75 per square yard according to specification. Vitrified brick is used very largely in the Western States; but as all brick is now imported, it has not been used to any great extent in Canada, and on a concrete foundation is no cheaper than asphalt. For the heaviest traffic of a city street granite sets on concrete foundation are used, costing about \$4 per square yard.

PAYMENT OF COST.—Before much progress can be made in any town towards good streets the local improvement system must be adopted, and to avoid any chance of trouble in the future a by-law should be submitted to the people providing that all street improvements shall be paid for by special assessment on the property benefitted and according to the frontage thereof.

* Paper read before the Ontario Association of Provincial Land Surveyors, Toronto.

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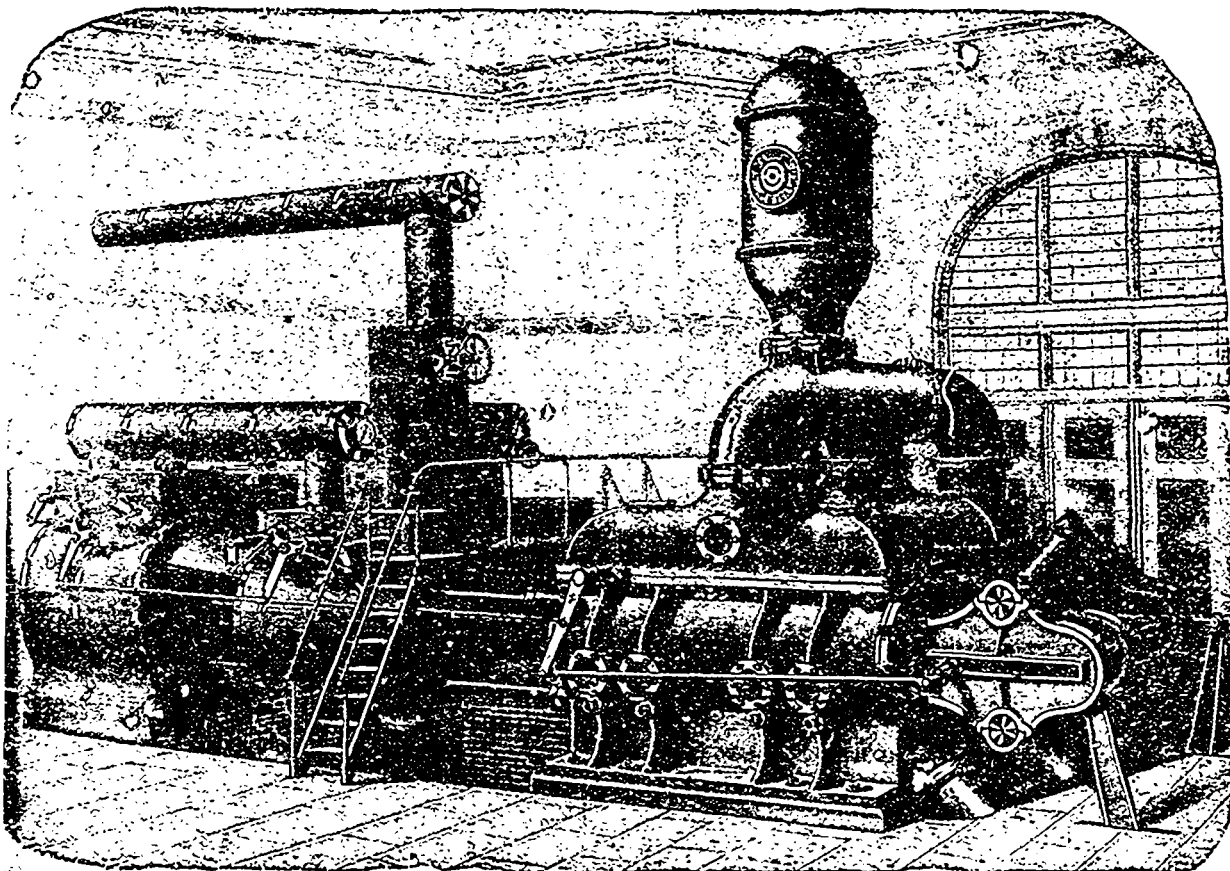
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CONDITION OF THE MARKET.

TORONTO: Trade in builders supplies is improving steadily as the season advances and a fairly good building season is anticipated throughout Ontario. Building operations in Toronto are as yet somewhat dull, although the disastrous fires of the past two months will necessitate the expenditure of a large sum of money in rebuilding, and will have a tendency to brighten the outlook for the season. Hardware is moving freely, the movement being principally in spring specialties. Cement is steady at \$3 per barrel for best grades Portland. Scotch fire bricks are selling at \$3.25 per 100, and fireclay at \$1 per 100 lbs. Lead pipe and galvanized iron are quiet, and discounts remain unchanged.

MONTREAL: Preparations are being made for the season's trade, which it is thought will be of fair proportion. A fair volume of business is being done in hardware, and orders for future delivery are coming in freely. The demand for cement continues low and the market in consequence is dull, prices being nominally unchanged. In firebricks the movement has been fair in small lots at \$15 to \$22 per 1,000 as to brand. An active business is reported in plumbers supplies for both city and country trade.

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