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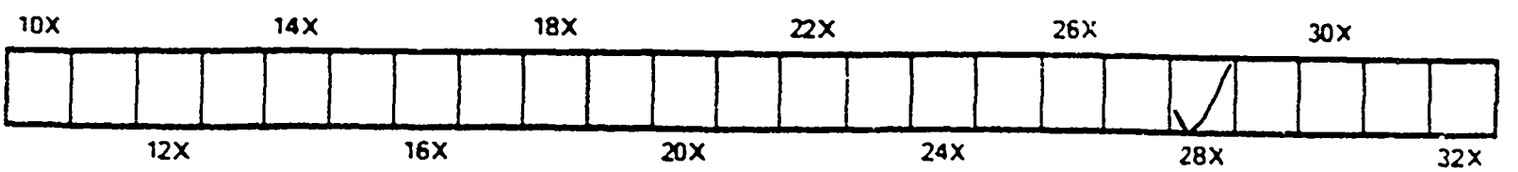

CANADIAN CONTRACT RECORD
A WEEKLY JOURNAL OF
PUBLIC • WORKS • TENDERS • ADVANCE • INFORMATION • AND • MUNICIPAL • PROGRESS
EVERY THURSDAY

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

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CONTRACTS OPEN.

GIBSON, N B.—John Machum is building a new house.

OLINDA, ONT.—T. H. Sloan contemplates building a residence.

MILTON, P. E. I.—The Episcopalians are preparing to build a new church.

MARBLETON, QUE. — Wayland & Christie intend to erect a large four-story building.

CAMPBELLFORD, ONT.—A local company will erect a skating and curling rink, at a cost of $2,500.

SYDNEY, C.B.—A bridge to cost about $10,000 is proposed to connect Sydney with the Intercolonial pier.

WELLAND, ONT.—A site has been selected for the Y.M.C.A. building, and work will commence at once.

SARNIA, ONT.—A by-law to raise $20,000 for waterworks purposes will be voted on by the taxpayers in January.

VICTORIA, B. C.—Tenders have been taken for heating the new Colonist building. Thomas Hooper, architect.

PEMBROKE, ONT.—There appears to be considerable opposition to the sewerage by-law now before the council.

ST. GEORGE, N. B.—A company is about to be organized to complete the race track started here some years ago.

NEWINGTON, ONT.—The Q.C.R. Company are about to extend their shops here, at an expenditure of not less than $70,000.

LENNOXVILLE, QUE.—It is probable that several memorial windows will be placed in the chapel of Bishop's College.

CARLETON PLACE, ONT.—It is probable that the block burned last week will be replaced by a more modern structure in the spring.

HULL, QUE.—The E. B. Eddy Co. have had plans prepared for remodelling their match plant, including the erection of a large addition and the putting in of improved machinery.

ORMSTOWN, QUE.—The Crown Pressed Brick Company will probably build a new brick kiln next spring.—The Presbyterians are considering an expenditure of $2,000 on a congregational hall.

AMHERSTBURG, ONT.—On Monday, January 3rd, the ratepayers will vote on a by-law to raise the sum of $15,000 as a bonus to the Windsor, Amherstburg and Lake Erie Railway Company.

BAIE DES PERES, QUE.—Mr. Lumsden is having extensive docks built here.—Mr. Parent will build butter and cheese factories in the spring, and Baron Keroyn is now building a flour mill.

SPANISH MILLS, ONT.—The Massey Station Telephone Company propose to build a telephone line from Spanish Station to Spanish Mills. H. L. Glover and R. H. Harvey are interested.

ST. JOHN, N. B.—The Wm. Davies Packing Company, of Toronto, desire to establish a branch establishment in this city.—The Common Council is discussing the putting in of a police alarm system.

RAINY RIVER, ONT.—The Canadian Pacific Railway Company will seek power from parliament to construct railways on the south shore of Minnehaha lake and the northeast bay of Upper Manitou lake.

BERLIN, ONT.—The Galt and Preston electric railway will likely be extended to this town.—On January 3rd next the ratepayers will vote on a by-law to raise $5,000 for the extension of the sewerage system.

BROCKVILLE, ONT.—The government intends building a new basin wall here this winter. The forwarders on the canal have also petitioned the department to build a dry dock at the same time for use in case of accidents.

THREE RIVERS, QUE.—The Calcium Carbide Company has commenced operations here. They have agreed to spend $2,000,000 in eighteen months or forfeit $50,000, which has been paid over to the government for the privilege.

CHATHAM, ONT.—The coroner's jury have recommended the County Council to take immediate steps to erect a house of refuge, and a site therefor has been selected on the banks of the Thames, about half a mile west of this city.

STRATHROY, ONT.—The Strathroy and Western Railway Company are applying to the Ontario government for an extension of time for the commencement and completion of the road. Allan H. Royce, Toronto, is solicitor for the company.

NORMAN, ONT.—P. H. L'Hereux is making arrangements to build a large hotel, corner Parson street and Government road. There is some talk of building a compressed air plant at the big dam here, to be used for manufacturing purposes.

KAMLOOPS, B. C.—Dr. Clark and J. Robinson interviewed the government requesting a grant towards the construction of a wagon road to connect the North River road with the Cariboo road at Bridge Creek, the estimated cost of which is $30,000.

FREDERICTON, N. B.—Referring to the proposed erection of a Masonic temple here, a correspondent writes: "We, as yet, have no idea as to the kind of building we will build. There is a committee appointed to attend to that part of the business, and as yet they have made no report. In all probability the work will be started in the spring."

ROSSLAND, B.C.—Referring to the proposed construction of the Crow's Nest Pass Railway into Rossland, Mr. R. Marpole, general superintendent, states that the company will probably commence work within a fortnight. The distance from Robson to Rossland is 26 miles, but with spurs about 30 miles of track will be built.

STRATFORD, ONT.—The City Council have decided to invite the architects of the city to prepare plans and estimates for the re-construction of the city buildings, with market, arcade, hall and city buildings, using the old walls as far as practicable, and also to prepare plans for the erection of a complete brick and stone three-story building.

WINNIPEG, MAN.—The city invites tenders until Monday, January 10th, addressed to the chairman of the Fire, Water and Light Committee, for electric street lighting for a period of three or five years from 25th April, 1898. Tenders will also be received until same date for the installation of a street lighting plant, to be owned by the city. C. J. Brown, City Clerk.

CHARLOTTETOWN, P.E.I.—The Commissioner of Public Works will receive tenders until Tuesday, 25th January, 1898, for the construction of the proposed Prince of Wales College and Normal School, the contract to be completed before 1st December following. Plans may be seen at the office of the Commissioner of Public Works, or R. P. Lemay, architect.

BRANTFORD, ONT.—The town is said to be getting estimates on a civic lighting plant.—The Wm. Paterson Company propose to extend their premises.—The proposal to add a butchers' market to the present city buildings, at a cost of $4,500, is meeting with opposition. The matter will be submitted to the ratepayers at the coming municipal elections.

HAMILTON, ONT.—It is said that the Hamilton & Toronto Sewer Pipe Company will not rebuild on the old site, but will erect a building in the east end of the city.—Building permits have been granted as follows: R. & J. Poag, three houses on Bay street, between Stuart and Murray streets; Mrs. A. Knetsch, alterations to 246 and 248 Cannon street east, cost $1,100.

NORTH BAY, ONT.—A deputation has requested the Ontario government to grant the sum of $5,000 to supplement a like amount to be given by the town for the construction of a breakwater. The Dominion government has granted $15,000 for the construction of a wharf, but before building the same it is necessary that a breakwater be built for the protection of the harbor.

LONDON, ONT.—A. O. Graydon, city engineer, will receive tenders until 5 p.m. to-day (Thursday) for the construction of tile sewers on John street and Princess ave.—The Water Commissioners have purchased the Griffith springs for water-works purposes.—No. 2 Committee of the Board of Education, at their last meeting, decided to put in desks in two waiting rooms and the teachers' rooms. It was also resolved to have plans prepared for a four-room school building.

KINGSTON, ONT.—Mr. Anson Ritchie, for a Toronto syndicate, will open the Loughboro' lead mines. New machinery will be added.—An architect is said to be preparing plans for another grain elevator for Messrs. Richardson.—Negotiations have again been opened with Abbott Bros., of Montreal, and an agreement reached whereby the company will erect buildings and put their works in operation before asking any part of the $50,000 bonus offered by the city.

QUEBEC, QUE.—The bill to amend the charter of the Laurentide Pulp Company, now before the Legislature, authorizes the company to build saw mills, dwelling houses, stores, churches, school-houses and hotels.—The Quebec Bridge Company will shortly submit its plans for a bridge across the St. Lawrence to the chief engineer of the Railway Department at Ottawa for approval.—Mr. D. Ouellet, architect, is preparing plans for a church and sacristy to be built at St. Cyprien, Temiscouata county. For the present only the sacristy will be erected.

TORONTO, ONT.—The City Engineer has advised the Board of Control to invite new tenders for sewer pipe, as he considers the tenders submitted too high.—Prof. Galbraith, Wright and others, of the University faculty, last week interviewed the Deputy Commissioner of Crown Lands regarding the establishment of an observation station in Algonquin Park. It is proposed to ask the government for permission to erect cottages for their use on the borders of the park. There is also a proposition to establish a summer resort upon a large scale upon the confines of the park.

ST. THOMAS, ONT.—In connection with the proposed electric railway, it is probable that the Wilson bridge will be improved or an iron structure erected in its place.—A scheme is talked of to give the citizens cheap electric light. The plan is to ask the Council for an appropriation of $20,000 for an electric light plant, to be placed in the waterworks building.—It was decided at the last meeting of the School Board to rebuild the Central and Balaclava street schools.—The Elgin County Public Improvement Committee is holding a conference to-day with a committee from the county of Middlesex regarding the erection of a bridge over the river Thames at the Coyne road. The new structure will be built of steel, and will entail an expenditure of from $20,000 to $25,000. The stonework will have to be constructed forty-two feet high. James A. Bell, C.E., of the city, will be present at the meeting.

MONTREAL, QUE.—The improvements to be made to the Windsor Hotel will include refurnishing, new and improved plumbing, and other alterations.—Perrault & Gendron, architects, are preparing plans for improvements to the City Hall.—The city will ask power from the Legislature to borrow $375,000. A portion of this amount will be expended as follows: $75,000 for main sewers in St. Denis ward; $27,000 for paving Notre Dame street west; $20,000 for wooden sidewalks, and $75,000 for other permanent works urgently required; $75,000 for pipe-laying, reservoirs, new services, and hydrants.—A bill is now before the Quebec Legislature asking incorporation of an electric power company proposing to operate on the south side of the Lachine Rapids.—The city surveyor has reported against the proposition to reduce the grade of Cote des Neiges hill, which he estimates would cost $30,000 and require 22,170 cubic yards of excavation.—Mr. F. E. Duckman, engineer of the Millwall docks, London, Eng., is now taking tenders for the building of two Duckham pneumatic grain elevators in Montreal for the Montreal Pneumatic Grain Elevator Company. The Canadian Locomotive & Engine Co., of Kingston, have been asked to tender.—J. A. Chausse, architect, is preparing plans for a residence to be built on Champlain street for Mr. Cote. Tenders will be invited shortly.

OTTAWA, ONT.—A report is current that the Canadian Pacific Railway will, in the near future, proceed with the construction of the Point Fortune branch of the Montreal and Ottawa railway westward. The line will pass through the villages of Chute au Blondeau, Little Rideau, Hawkesbury and L'Orignal, and tap the main line of the road at Caledonia Springs.—The Deschenes Electric Company, which has asked permission to supply light and power to the city, offers to place its wires underground. Among the stockholders are Robert Anderson, Alex. Fraser and David Maclaren.—Mr. J. Lorne McDougall, Auditor-General, is a strong advocate of another High School or Collegiate Institute.—Tenders are asked by John Henderson, city clerk, until the 20th inst., for supplying 2,500 brass tags and 350 aluminum tags for dogs.—The Minister of Railways and Canals has consented to a change in the plans for the interprovincial bridge. The plans as originally designed called for a bridge with vehicular accommodation running overhead of the bridge used for railway purposes. By the change the bridge will be widened and all the accommodation will be on the same level.—The Federal government has decided to purchase what is known as MacCartney's shipyard at Sorel, Que., and will there build during the present winter two new dredges for the Public Works Department.—The Tamagamingue Railway Company is applying for incorporation.—The Calgary & Edmonton Railway will apply to Parliament for power to extend their line to the Crow's Nest Pass.—Application will be made to Parliament next session for an act to incorporate a company to construct a railway or tramway from the head of Miles Canyon to the foot of the White Horse Rapids, on the Lewes river, in the Northwest Territories.—A company is seeking a Dominion charter to construct a railway from a point near Edmonton, N. W. T., to some point near the confluence of Smoky and Peace rivers.—A sufficient number of ratepayers have petitioned for the paving of Sparks street with asphalt, and the work will be carried out next year.

FIRES.

Weir & Sons' machine shop at Moncton, N. B., suffered damage by fire last week to the extent of $4,000.—A building at Owen Sound, Ont., owned by Charles Williams, has been damaged by fire.—The loss to the M. B. Perine Company, of Doon, Ont., whose plant was burned last week, is given as $25,000.—The shoe store of Geo. Johnson, at River Desert, Que., was destroyed by fire recently. Loss $1,800; largely covered by insurance.—The Turkish bath building in connection with the Hotel Victoria, Palace street, Quebec, was badly gutted by fire last week. Mr. Resther will rebuild at once.—A grist mill, saw mill and planing mill owned by Robert Caldwell, and situated about two miles from Bolton, Ont., were consumed by fire on Monday last. Loss $5,000; no insurance.

CONTRACTS AWARDED.

OTTAWA, ONT.—The City Council have decided to purchase two hose wagons from the Waterous Co., of Brantford, at the price of $375 each.

CHARLOTTETOWN, P.E.I.—The tender of the Bank of Nova Scotia, Halifax, for the purchase of city debentures, has been accepted, at 105⅛ per cent.

COBOURG, ONT.—The G. T. R. have awarded to the Crossen Company, of this town, a contract for the construction of 22 tourist cars, to cost $100,000.

QUEBEC, QUE.—The contract for the reparations and extensions to the Miller & Lockwell tobacco factory has been awarded to J. Hudon, of St. Roch; cost $2,500.

TILSONBURG, ONT.—Contracts in connection with the new town hall have been let as follows: Heating apparatus, John Weston, for two of Clare Bros'. furnaces; cement floor, Mr. McClure; woodwork, Wm. Ferguson; painting, Wm. Shelson.

MONTREAL, QUE.—In the last issue of the CONTRACT RECORD it was stated that the contract for heating the new Mechanical and Mining Engineering building of McGill University, which was secured by Garth & Co., called for 800 feet of radiation. This should have read 12,000 feet of radiation.—A building permit has been granted for a building on Marianne street for E. Pelletier; masonry contractor, M. Corbeil; carpentry, L. Pelletier.

TORONTO, ONT.—G. A. Stimson & Co. have recently closed out the purchase

of $7,000 city of Chatham consolidated debt bonds, as well as $3,500 town of Petrolea school bonds, both of which they secured by public tender.—The tender of Park Commissioner Chambers, for the erection of a caretaker's cottage at Island Park, at $1,175, has been accepted.—Mr. J. W. Siddall, architect, has accepted the following tenders for additions to the Grand Union Hotel, cor. Front and Simcoe streets: Mason work, John Webb; carpenter work, Henry Martin; plumbing, J. Ritchie Co.; plastering, Duckworth Bros.; galvanized iron, A. B. Ormsby & Co.; painting, Hughes & Co.

BUSINESS NOTES.

Pierre Dansereau, plasterer, Montreal, is announced to have assigned to Olivier Lemoges. Liabilities, $18,000.

The Peter Smith Granite Co., Montreal, has been dissolved, and is succeeded by the Smith Brothers Granite Co.

MARKET CONDITIONS.

According to information received in Toronto, the manufacturers have reduced prices in certain sizes of black iron pipe, which has led to a material modification in the jobbing price of sizes running from ½ to 2-inch, the drop ranging from 2½ to 5 per cent. Alterations in the conditions governing these sizes in the United States was the ruling cause with makers for the change. The new and old jobbing range on the sizes on which the alterations have been made are:

Size.	New Price.	Old Price.
½-inch	$2.40	$2.45
¾-inch	2.85	2.90
1-inch	4.00	4.20
1¼-inch	5.15	5.35
1½-inch	6.65	6.90
2-inch	9.00	9.35

At a meeting of window glass jobbers held in Montreal last week, an advance in the price of glass was decided upon of 5 cents on first and second breaks and 10 to 20 cents on third and further breaks.

In cut and wire nails trade at Montreal and Toronto is quiet. This is also the case in heavy metals.

Business continues brisk in cement, notwithstanding the rise in price. Firebricks are firm, but no large volume of business is doing. Prices at Montreal range from $17 to $21 per thousand.

TESTS OF FLOORING MATERIAL.

The Boston Journal of Commerce gives the following interesting results of a thorough and careful investigation recently carried out as to the comparative durability of different flooring materials. In the tests an ordinary iron rubbing wheel was used, like that employed by stone workers for rubbing a smooth surface on marble or sand stone, and the samples to be tested were fastened to blocks of sandstone, laid face downward on the rubber wheel, which revolved at the rate of 75 revolutions a minute, being supplied with sand and water. The blocks to which the floorings were cemented were of equal weight, so that the rubbing was effected under nearly the same pressure in all cases. Curiously enough, the material which resisted best this severe trial was india-rubber tiling, which, after an hour's rubbing, lost only 1-64-inch of its thickness, and next to this, English encaustic tile gave the best results, losing only ½-inch in an hour's treatment. The artificial stone, known as "granolithic," was third, losing ¾-inch, while North River bluestone lost 9-16-inch. All the marbles wore away very rapidly. A piece of marble mosiac disappeared entirely in 35 minutes, while solid white Vermont marble lost ¼-inch in an hour. Most of the wood floorings resisted abrasion better than the marble; thus white pine lost only 7-16-inch under treatment that removed nearly twice as much from solid marble, yellow pine about like white, and oak lost more than either of the pines.

USEFUL HINTS.

The following two cements are of considerable value in caulking hot water pipes: 1. Two parts of ordinary well-dried powdered loam and one part of borax are kneaded with sufficient water to a smooth dough, which must at once be applied to the joints. After exposure to heat, the cement adheres even to smooth surfaces so firmly that it can only be removed with a chisel. 2. Mix 430 parts by weight of white lead, 520 of powdered slate, five of chopped hemp, and forty-five of linseed oil. The two powders and the hemp, cut into lengths of about ¼ in., are mixed intimately, the linseed oil gradually added, and the mass is then kneaded until it has attained a uniform consistency. It is claimed that this preparation keeps better than ordinary red lead cement.

STAINS FOR WOODS.—A solution of 50 parts of commercial alizarin in 1,000 parts of water, to which a solution of ammonia has been added, drop by drop, until a perceptible ammonia odor is developed, will give to fir and oak a yellow-brown color, and to maple a red brown. If the wood is then treated with a 1 per cent. aqueous barium chloride solution, the first named becomes brown, and the latter a dark brown. If calcium chloride be used instead of barium chloride, the fir becomes brown, and the oak red brown, and the maple a dark brown. If a 2 per cent. aqueous solution of magnesium sulphate be used, the fir and oak become dark brown, and the maple a dark violet brown. Alum and aluminum sulphate produce on the fir a high red, and on oak and maple a blood red; chrome alum colors maple and fir reddish brown, and oak Havana brown. Manganese sulphate renders fir and maple a beautiful dark violet brown, and oak a dark walnut.

A new process introduced in Paris for giving pottery, wood, glass, metal and paper the tints of the soap bubble is thus described. The colors of soap bubbles are due to the film of water causing some of the waves of light reflected from its inner and outer surface to cancel each other and produce tints. The same effect is seen in films of oil or tar on water, in scales of old glass and in pearls. Hitherto the process of coloring in the same way has been applied only to paper, but it is to be extended to many other substances. A thin plate of transparent liquid, consisting of turpentine or rectified benzine containing a little gum damar, if the paper is white, and Judean bitumen if it is black, is shed over the wetted paper. When dried on the surface this film gives a rainbow or irridescent appearance to the paper. The above can be used as a stain over light, delicate tints in decorating and enameling; also in a glaze prepared by varnish and color tints.

ALTERATIONS IN TENDERS.

Although tendering is a familiar process, there appears to be no recognized rule, says the Builders' Reporter, about the liberty to make alterations in tenders prior to acceptance. Two recent cases suggest the difference of opinion on the subject. Recently in Stourbridge the tenders for the decoration of the town hall were considered. The highest tender amounted to £686 14s. 6d., and the lowest was £244 4s. There is perhaps nothing extraordinary in the variations. The committee entrusted with the work decided on the acceptance of the lowest tender. Subsequently they were informed that the amount should have been £284 4s., if it were not for a clerk's blunder. When altered the tender remained £75 below one which stood next in amount. The contractor said he was prepared, if the Council insisted, to carry out the work at the unaltered price. Another competitor wrote to say if revision were allowed in one case it would be unfair unless the privilege were extended to all. The committee considered they were bound to accept the revised tender, as it was the lowest; and the Council adopted that view. In Colchester a similar case occurred recently. But one of the aldermen was a brother to a member of the firm that had sent in the erroneous tender, and he insisted on the principle that alterations should not be allowed in tenders, and the work therefore was entrusted to another firm, although at a higher amount. It seems to us that the Stourbridge Council were more equitable. The fairest way of getting work done is to pay according to schedule prices; and accordingly there is more or less speculation and uncertainty in tendering for a lump sum. No employer should wish to have a contractor work at a loss, or to bind one to an amount that is unquestionably wrong. It is, however, well to remember that an erroneous tender can be made binding on a contractor, unless there is an understanding that the signing of some contract or other deed is an indispensable condition.

ROOF TILES AND CEMENT INJECTION.

The moisture which condenses under the tiles of a roof may become unpleasant, particularly when thaw sets in after continued frost. As it would be a very difficult task to prevent condensation altogether, the best thing we can do is to provide an easy outlet for the water which collects from this cause. J. P. Jorgenson, of Wedel in Holstein, effects this by arranging for cross and longitudinal grooves. The water which runs along the lower surface of one row of tiles against the edge of the row below is by these means diverted on to the upper surface of that row. It is essential that the tile structure should be fairly accessible from below. Jorgensen fits the tiles with additional grooves on the upper surfaces, simply to facilitate the flow of the water.

We may also mention while on this subject the process invented by Rummele, of Waldshut, for filling up fissures in brickwork, for fixing loose stones, etc. Rummele widens the cleft so as to get about two or four inches space, and then closes it superficially with the help of wooden pegs and plasters. The channel space underneath is divided into sections six feet in length. Into these sections the cement is injected, beginning with the lowest sections and working from below. According to Dingler's Polytechnisches Journal some excellent repairing has been done in tunnels, etc., in this way.

MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

MUNICIPAL DEPARTMENT

TO MUNICIPAL OFFICERS.

The CONTRACT RECORD is desirous of publishing, as far as possible, advance information regarding projected works of construction in all parts of Canada, such as sewerage and waterworks systems, railways, street pavements, public and private buildings, etc. Municipal officers would confer a favor upon the publisher by placing at our disposal particulars of such undertakings which are likely to be carried out in their vicinity, giving the name of the promoter, character of the work, and probable cost. Any information thus furnished will be greatly appreciated.

SCHOOL OF ROAD-MAKING.

At a moment when the subject of road-making is attracting so much attention in Canada, it may be interesting for our people to note what is being done in connection with the subject elsewhere. Reference has already been made in these columns, says the Ottawa Free Press, to the work being done in some of the States of the Union, but Rhode Island has just started a scheme having for its object the educating of practical as well as theoretical road-makers. A school of road-making is somewhat of a novelty, but there seems no reason why it should not be found of as much value as schools for the teaching of other things. The Boston Transcript gives a lengthened description of the proposed plan and its course of study which has been prepared by General Stone, the U. S road expert. It appears that the course of study will cover two years, so it will be seen that "thoroughness" will be obtained. The graduates are expected to be men who can draw the contracts, be able to run the machinery to build the road, and know the business from the hoe handle to the tripod, from shovelling coal under the boiler of the steam roller to drawing the plans—road engineers, in fact. To enter this course the student must be thoroughly grounded in the rudimentary branches, including algebra and geometry. During the first year the studies will cover English branches, together with higher geometry, trigonometry and surveying. In the second year the distinctive studies will be scientific, including physics and laboratory work pertaining to this subject; enough study in electricity to thoroughly understand the application of motors and electric power, and physiography. In the latter branch special attention will be given to the study of physical geography and its relations to the strata and course of springs as affecting road building. Then the student will be instructed in mineralogy and geology, that he may fully understand the relation these branches bear to his profession. Steam engineering will also be one of the branches. As a part of the practical instruction each student will in the spring work for one month, 10 hours a day, in building roads, handling the shovel, driving horses, running the plant and so forth. It will be seen that this plan places road making on the same plane as other technical studies and is the first attempt on this continent—something of the kind exists in Germany—to bring theory and practice together in connection with the subject. The scheme is ambitious and elaborate and worthy of imitation. In Canada our provinces could hardly bear the cost of such an institution, but the example set by Rhode Island might be imitated to some extent. There is no reason why road-making in theory and practice should not be made part of the course prescribed at our agricultural colleges. The Ontario government would be doing good service by providing for such a course at Guelph, and we have no doubt that the county councils would be ready to avail themselves of the opportunity afforded and send some persons to make themselves acquainted with the principles of good road-making. If every county or township had a properly qualified person within its borders whose duty it would be to see that the roads are properly made and maintained, in a few years we should see a marked improvement in our rural highways, which at present are in too many cases behind the times. The Rhode Island departure is worthy of imitation.

ROAD IMPROVEMENT.

The following advice regarding road improvement, given by Mr. Campbell, Provincial Road Inspector, at Guelph, will be of interest to other municipalities as well:

At present in introducing a system of road-making he would advise to spend a little on the streets generally where absolutely necessary, and equip themselves with proper machinery, have a plan laid out and commence laying a substantial piece of road each year. A plan of the streets should be made, the streets classified and the work proceeded with systematically. On a leading street, like Wyndham, where there was a great deal of traffic, paving would have to be put down from side to side; main streets leading into the city would require to be from twenty-four to twenty-six feet wide, while twenty-two feet would be ample for streets in front of private residences. One of the first steps toward permanent improvement would be to purchase a rock-crusher, put it into the gravel pit and break the stones in sizes varying from two and one-half inches down to dust. The sizes should be two and a half inches, one and a half inches and three-quarters of an inch. He would break up the present road surface, remove about a foot of the dirty material, then thoroughly roll the foundation and apply the new material. First, put on a layer of the coarse material seven inches deep, then a layer of the next grade three inches in thickness; then a two-inch layer of three-quarter-inch grade, and finally cover the whole surface with the screenings of road dust. This should be sprinkled with water to carry the dust into the interstices of the stones, and thoroughly rolled so as to compact the whole mass until the twelve inches of loose stone would be compressed into about nine inches of a solid stone cover. The surface would then be hard and smooth, the road would be of uniform strength and would wear smoothly and evenly. If the roadway was properly crowned, when it rained the water would shed readily into the gutters, and if the gutters are made free, the water runs away and the road is washed clean, instead of, as now, being made into mud. A rock-crusher and heavy street roller are the chief machines needed to inaugurate a thorough system of improvement.

MUNICIPAL ACCOUNTS.

Mr. Haycock has given notice in the Ontario parliament that he will introduce a bill for the better auditing of municipal accounts. Mr. Haycock, in explaining his bill, points out that the great difficulty in auditing municipal accounts is not so much the payments not being made as to the fact that the receipts therefor are not credited. Especially is this the case where transfers are made from one municipality to another. The bill provides that the treasurer of every municipality who pays money to the treasurer of another shall on Jan. 1 of each year send a statement of such payments, over his own signature and sealed with the corporation seal, to the head of the municipality to whose treasurer he has so paid the money. This statement is to be used by the auditors in their work. The measure also provides that the registrar of every municipality shall make similar returns to the head of the municipality. In conclusion the bill looks towards the appointment of permanent auditors by municipal corporations. Also every municipal corporation shall furnish its auditors with an indelible stamp for use in cancelling vouchers.

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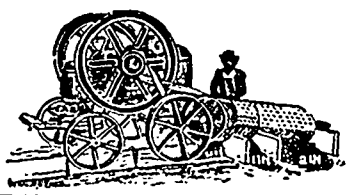
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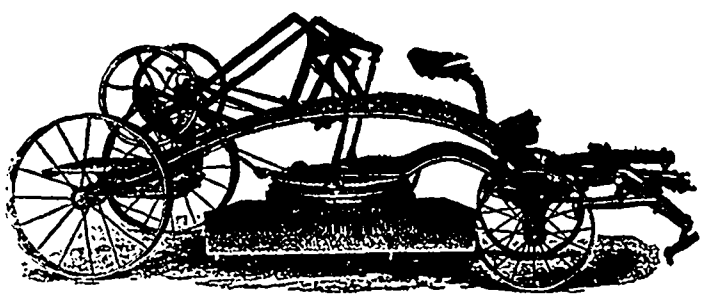

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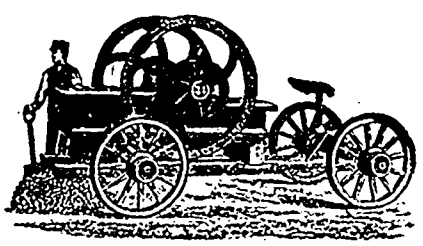
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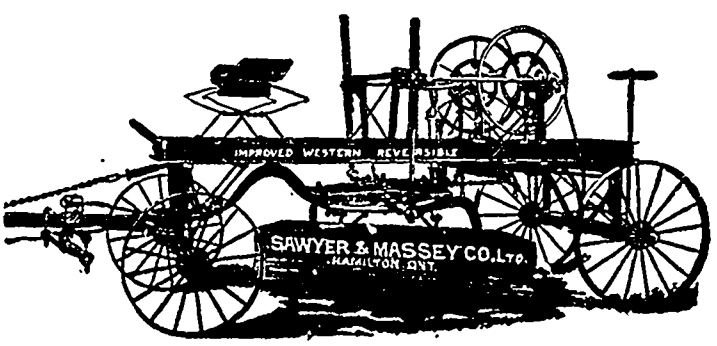

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Prices of Building Materials.

LUMBER.

VARIED QUOTATIONS.

	Toronto. $	$	Montreal. $	$
Mill cull boards and scantling	9 00	10 00	10 00	12 00
Shipping cull boards, promiscuous widths	12 00	13 00		13 00
Shipping cull boards, stocks	15 00	16 00		16 00
Hemlock scantling and joist up to 16 ft	10 00	12 00		10 00
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 paving, per cord		5 00		5 00
Cedar for kerbing, 4 x 14, per M		14 00		14 00
Scantling and joist, up to 16 ft		14 00		14 00
" " 18 ft		15 00		16 00
" " 20 ft		16 00		16 00
Scantling and joist, up to 22 ft		17 00		17 00
" " 24 ft		19 00		19 00
" " 26 ft		20 00		21 00
" " 28 ft		22 00		23 00
" " 30 ft		24 00		25 00
" " 32 ft		27 00		27 00
" " 34 ft		29 50		29 50
" " 36 ft		31 00		31 00
" " 38 ft		33 00		33 00
" " 44 ft		31 00		36 00
Cutting up planks, 1¼ and thicker, dry	25 00	28 00	25 00	30 00
	B. M.			
1⅜ in. flooring, dressed, F M	34 00	36 00	28 00	31 00
1⅜ inch flooring, rough, B M	18 00	22 00	18 00	22 00
1¼ " dressed, F M	25 00	28 00	27 00	30 00
1¼ " undressed, B M	18 00	19 00	18 00	19 00
1 " dressed	18 00	20 00	18 00	22 00
1 " 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
XXX sawn shingles, per M 16 in	2 35	2 35		3 00
XX sawn shingles	1 50	1 50		
Sawn lath, No. 1	2 00	2 03	2 50	2 60
Cedar		2 90		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
Cherry, No. 1 and 2	70 00	90 00	70 00	80 00
White ash, No. 1 and 2	24 00	35 00	30 00	35 00
Black Ash, No. 1 and 2	20 00	30 00	18 00	30 00
Dressing stocks	16 00	22 00	16 00	22 00
Picks, American inspection		30 00		40 00
Three uppers, Am. inspection		50 00		50 00

BRICK—₩ M

Common W[illegible]g		6 50	7 50	8 00
Good Facing		8 00		8 50
Sewer	8 50	8 00	8 50	9 00
Pressed Brick, Per M:				
Red, No. 1, f.o.b. Milton		13 00		19 00
" " 2		11 00		17 00
" " 3		8 50		15 00
Buff No. 1, f.o.b. Milton		13 00		9 00
" " 2		11 00		17 00
" " 3		8 50		15 00
Sewer		4 50		
Hard Building		4 50		

SAND.

Per Load of 1½ Cubic Yards		1 25		75

STONE.

Common Rubble, per toise, delivered		10 00		11 00
Large flat Rubble, per toise, delivered		14 00		18 00
Foundation Blocks, per c. ft.		30		50
Ballochmyle	80	90	65	75
New York Blue Stone				1 05
Granite (Stanstead) Ashlar, 6 in. to 12 in., rise 9in., per ft.				25
Moat Freestone			60	70
St. Odhelm, Bath Freestone			50	60
Black Pasture, Freestone				70
Thomson's Gatelawbridge, cu. ft.			75	80
Clark's N. B. Brown Stone, per cubic foot, f.o.b.		1 15		1 00
Brown Free Stone, Woodpoint, Sackville, N.B., per cub. ft.		1 15		90
Elgin Town Quarries, Olive Freestone, cu. ft.				85
MadocRubble, delivered, per toise	14 00	14 50	14 00	14 50
Madoc dimension floating, f. o. b. Toronto, per cubic ft.	30	32		
"Scoriæ" Paving Blocks, 8"×3½"×5"		5 00		
"Scoriæ" Paving Blocks, 8"×3½"×4"		45 00		

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

No. 1 Buff Promiscuous	90	1 00
No. 1 Buff Dimension	95	1 05
No. 1 Blue Promiscuous	60	70
No. 1 Blue Dimension	65	75
Sawed Ashlar, No. 1 Buff any thickness, per cub. ft.	1 10	1 20
Sawed Ashlar, No. 1 Blue, any thickness, per cub. ft.	80	90
Sawed Flagging, per sq. ft., for each inch in thickness.	c6½	c7½

Above prices cover cost freight and duty paid. For small lots add 5 to 10 cents per cubic foot.

CREDIT VALLEY STONE.

Rubble, per car of 16 tons at quarry		7 00
Brown Coursing, up to 10 inch, per sup. yard, at quarry	1 50	1 75
Brown Dimension, per c. ft., at quarry		60
Grey Coursing, per sup. yard		1 00
Grey Dimension, per cub. ft.		45

LONGFORD STONE.

Rubble, per 30M car, f.o.b. quarries		5 00
Ashlar, per cub. yd. f.o.b. quarries		2 00
Dimension, per cub ft. " "		18
Kent Freestone Quarries Moncton, N.B., per cu. ft., f.o.b.	1 00	95
River John, N. S., brown Freestone, per cu. ft., f.o.b	95	95
Quebec and Vermont rough granite for building purposes, per c.ft. f.o.b. quarry.	40	1 00
For ornamental work, cu. ft.	40	
Granite paving blocks, 8 in. to 12 in. x6 in. x4½ in. per M		50 00
Granite curbing stone, 6 in. x 20 in. per lineal foot		70

SLATE.

	Toronto.		Montreal.	
Roofing (₩ *square*).				
" red	7 50			20 00
" purple	8 50			10 00
" unfading green	8 50	7 00		8 00
" black	7 50			6 50
Terra Cotta Tile, per sq.	20 00			25 00
Ornamental Black Slate Roofing	8 80			6 80

PAINTS. *(In oil, ₩ lb*

White lead, Can., per 100 lbs.	5 25	5 50		5 25
" zinc, Can., " "	6 50	7 50		7 25
Red lead, Eng.	4 00	5 00	4 00	4 50
" venetian, per 100 lbs.	1 60	1 75	1 60	1 75
" vermillion	90	1 00	75	90
" Indian, Eng.	10	12	8	10
Yellow ochre	5	10	3	5
Yellow chrome	15	20	15	20
Green, chrome	7	12	7	12
" Paris	20	25	14	20
Black lamp	15	25	12	25
Blue, ultramarine	15	20	12	18
Oil, linseed, raw, by bbl. ₩ *Imp. gal*	45			48
Oil, linseed, b'l'd, by bbl., ₩ *Imp. gal*	48			57
Oil, linseed, refined, ₩ *Imp. gal*	78	85	75	75

(Less than bbl., 5c. per gal. advance.)

Putty	2¼	2½	2¼	2½
Whiting, dry, per 100 lbs.	60	80	60	75
Paris white, Eng., dry	90	1 25	90	1 00
Litharge Eng.	4	5	4 50	5 00
Sienna, burnt	10	15	10	12
Umber, "	8½	12	10	12
Turpentine	52			45

CEMENT, LIME, etc.

Portland Cements —				
German, per bbl.		3 50		2 40
London "	3 00	2 75	2 17	2 05
Newcastle "		2 50	2 10	1 95
Belgian, Josson, artificial	2 90	2 75		2 40
North's "Conder"	2 50	2 75		2 40
English, artificial, per bbl.	3 10	3 15	2 35	2 20
Belgian, natural, per bbl.	2 60	2 40	2 10	1 85
Canadian "	2 75	2 50	2 05	2 0
Roman "			2 25	2 20
Parian "	5 00	5 00	5 75	5 75
Superfine "	1 00	7 25	8 25	9 05

(CORRECTED UP TO DECEMBER 15TH.)

	Toronto.		Montreal.	
Hydraulic Cements.—				
Thorold, per bbl.		1 75	1 25	1 50
Queenston, "		1 75	1 50	1 60
Napanee, "		1 75		1 50
Hull, "		1 75		1 50
Ontario, "		1 10		
Keene's Coarse "Whites"	4 50	4 75	5 00	5 50
Fire Bricks, Newcastle, per M	27 00	35 00	15 00	21 00
" Scotch "	27 00	35 00	19 00	21 00
Lime, Per Barrel, Grey		40		
" " White		50		80
Plaster, Calcined, N. B.		2 00		1 50
" " N. S.		2 00		1 50
Hair, Plasterers', per bag	80	1 00		1 00

HARDWARE.

The following are the quotations to builders for nails at Toronto and Montreal:

Cut nails, 50d & 60d, per keg	2 25	1 85
Steel " " " "	2 35	1 95

CUT NAILS, FENCE AND CUT SPIKES.

40d, hot cut, per 100 lbs	2 30	1 90
10 to 16d, hot cut	2 35	1 95
8d, 9d, " "	2 40	2 10
6d, 7d, " "	2 45	2 05
4d to 5d, " "	2 70	2 30
3d, " "	3 95	2 55
2d, " "	3 25	2 85

Cut spikes, 10 cents per keg advance.
Steel Nails, 10c. per keg extra.

Iron Pipe:

Iron pipe, ¼ inch, per foot	6c.	6c.
" " ⅜ " "	7	7
" " ½ " "	8½	8½
" " ¾ " "	12	12
" " 1 " "	17	17
" " 1¼ " "	24	24
" " 1½ " "	30	30
" " 2 " "	43	43

Toronto, 70 per cent. discount.
Montreal, 70 per cent. discount.

Lead Pipe:

Lead pipe, per lb.	7c. } 27½ per
Waste pipe, per lb.	7½ } cent. dis

Galvanized Iron:

Adam's—Mar's Best and Queen's Head:		
16 to 24 guage, per lb	4½c.	4¾c.
26 guage, "	4¾	5
28 "	5	5¼
Gordon Crown—		
16 to 24 guage, per lb	4¼	4¼
26 guage, "	4½	4¾
28 "	4¾	5

Note.—Cheaper grades about ½c. per lb. less.

Structural Iron:

Steel Beams, per 100 lbs	2 75	2 50
" channels, "	2 85	2 30
" angles, "	2 50	2 65
" tees, "	2 80	2 60
" plates, "	2 55	2 35
Sheared steel bridge plate		2 30

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