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# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF PUBLIC WORKS AND 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.

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DECEMBER 5, 1900

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## PUBLIC NOTICE

Is hereby given that the time for receiving tenders for Annual Supplies required by the Works Department for the year 1901, has been extended from noon on Tuesday, December 4th, 1900, until noon on

**Tuesday, December 11th, 1900**

E. A. MACDONALD (Mayor),  
Chairman Board of Control.

Toronto, November 29th, 1900.

Ceiling Decoration.—"A lofty ceiling divided into panels or sunk coffers admits of a variety of very rich effects in colors; the sunken parts may be of blue or dark brown, or red relieved by gold diapers, the molded beams being relieved by lines of bright red, green and white, or by frets. There is plenty of scope for ceiling decoration if only the decorative artist and architect work together. Why the ceiling, above all other parts of a room, should be left in unbroken plainness and whiteness, while the walls are enriched by color and expensive wall fabrics, it is difficult to say. The ceiling is the only part of a room where a decorative design or scheme of color is likely to be seen and appreciated."

### CONTRACTS OPEN.

HINTONBURG, ONT.—Village debentures are still on the market.

LEAMINGTON, ONT.—The town council has decided to bore for a gas well.

WARKWORTH, ONT.—The Roman Catholics will build a new church here.

PETERBORO, ONT.—A movement is on foot to secure the erection of a dry dock here.

ONSLOW, N.S.—The Presbyterian congregation are taking steps to rebuild their church.

NANAIMO, B.C.—A movement is on foot looking to the erection of an isolation hospital.

BEAVERTON, ONT.—Alex. Dobson is preparing to rebuild his peat works in Thorah.

RIDGETOWN, ONT.—James Watt & Son will build a large addition to their foundry.

PARRY SOUND, ONT.—The Bank of Ottawa have purchased a site for their new building.

WATFORD, ONT.—An effort is being made to organize a company to build a curling rink.

DARTMOUTH, N.S.—Certain ratepayers are still urging the town to install an electric light plant.

PENETANGUISHENE, ONT.—N. Payette is building an addition to his residence on Peel street.

ST. ANDREWS, N. B.—W. A. Holt & Company contemplate making an addition to their larrigan factory.

BARRIE, ONT.—The county of Simcoe has guaranteed \$41,900 of debentures, to be issued by the town of Barrie.

AMHERSTBURG, ONT.—John Pineau has been granted permission by the town to lay gas pipes along the streets.

HALIFAX, N.S.—The city engineer has recommended the construction of a sewer along Cunard street, to cost \$1,400.

COBOURG, ONT.—The government has not yet acceded to the request of the town to assist in building a large sewer.

SOUTHAMPTON, ONT.—Bowman & Zinkan have asked for a loan of \$15,000 to assist them in rebuilding their tannery.

FORT FRANCIS, ONT.—It is reported that McKenzie & Mann have decided to erect large pulp mills here next summer.

QUEBEC, QUE.—W.E. Price has purchased property on Grand Allee on which he intends building a handsome residence.

WINDSOR, N.S.—The car repair shops and other buildings of the Midland railway will probably be located in this village.

PERTH, ONT.—R. S. Lee, C.E., of Montreal, has offered his services in connection with construction of proposed sewerage system.

SACKVILLE, N.B.—It is rumored that a stone wing to occupy the Lingley Hall site is in contemplation for the Ladies' College.

WINGHAM, ONT.—Plans have been prepared by H. C. McBride, architect, of London, for a new Methodist church; cost \$12,000.

NORTH TORONTO, ONT.—It is expected that the expenditure of \$10,000 will be sufficient for the proposed waterworks extension.

STRATHALLEN, ONT.—The Methodist congregation will build a new church next summer. Already \$5,000 has been subscribed.

GUELPH, ONT.—W. F. Colwill, architect, is this week taking tenders for alterations and additions to residence of John M. Bond.

STRATFORD, ONT.—The Latter Day Saints have decided upon the erection of a new church. Particulars from George Lindsay.

GALT, ONT.—Next spring Cowan & Company, manufacturers of woodworking machinery, will build a new boiler shop 100x80 feet.

BANCROFT, ONT.—Fair & Sargent intend putting in an electric light plant.—It is said that the Rathbun Co. will build a new mill here.

ST. JOHN, N. B.—The report of engineer Howe on required improvements to the waterworks system and fire apparatus has been received.

VICTORIA, B.C.—The council will probably take up the question at an early date of building a steel bridge across the arm at Point Ellice.

LOWER COVE, N.S.—The Atlanta Grindstone Company, of Providence, R.I., have purchased a grindstone quarry here and intend equipping it with modern machinery.

KINGSTON, ONT.—The Civic Light Committee will recommend the council to establish a municipal electric light plant, at a cost of \$50,000.

ST. MARY'S, ONT.—Plans are being prepared for a two-storey brick store and photograph gallery for J. Webster. J. L. Humphries is architect.

PORT HOPE, ONT.—The Grand Trunk Railway Co. purposes building a new station here.—Additional debentures will be offered for sale by the town.

HAMILTON, ONT.—A meeting of the authorities of the Church of Ascension will be held this week to discuss the erection of a new Sunday School building.

AYR, ONT.—J. Stewart Clark has asked the council for a bonus of \$2,000 to install an electric light plant and otherwise enlarge the capacity of the Nithvale flour mills.

GOLDEN, B.C.—The Dominion government will be urged by the Board of Trade to complete the necessary embankment

and other improvements along the Kicking Horse river.

**OWEN SOUND, ONT.**—A company with a capital of \$150,000 will build a large summer hotel at Balmly Beach. A. H. Naughtman, of the C.P.R., Toronto, is interested in the scheme.

**PORT COLBORNE, ONT.**—Hogan & Macdonnell intend making extensive repairs and alterations this winter to the dredges Kilkenny and Killamey. The wooden hulls may be replaced by steel ones.

**GLENCOE, ONT.**—The managers of Chalmers church are considering means of raising funds with which to build a new edifice.—The council will issue debentures to the amount of \$1,850.24.

**ROSSLAND, B.C.**—It is reported that Jas. Breen, representing a New York syndicate, has secured a controlling interest in the Dominion Copper Company, and that a smelter will be erected immediately.

**CHARLOTTETOWN, P. E. I.**—Richard Smith, secretary Department of Public Works, asks tenders up to Monday, December 31st, for construction of steel bridge and concrete abutments at North River.

**WELLAND, ONT.**—Since the burning of the electric light station the question of the town installing a municipal plant has been discussed. If no immediate steps are taken Mr. Page is likely to rebuild his plant.

**KAMLOOPS, B.C.**—A company is seeking incorporation to build a railway from Kamloops through the Similkameen country to Greenwood and Grand Forks. Wilson & Senkler, of Vancouver, are solicitors for the country.

**ST. CATHARINES, ONT.**—Mr. Chaplin has made an offer to dispose of the old White mill power to the city. If purchased it will require about \$5,000 for improvements.—Jamieson Black announces his intention of building a flour mill here.

**PEMBROKE, ONT.**—A by-law has been carried by the council to raise a sum of money by the issue of debentures for granolithic sidewalks and other road improvements, waterworks and sewerage extension, and for purchase of an additional pump for the waterworks.

**NIAGARA FALLS, ONT.**—Tenders close 12th inst. for purchase of \$10,000 4 per cent. town debentures. J. H. Burns, clerk.—At the municipal elections the ratepayers will vote on a by-law to raise \$10,000 by debentures for placing two pumps in the waterworks station.

**OSHAWA, ONT.**—A system of waterworks is likely to be installed next year, and extensive improvements may be made to the harbor.—A proposition has been submitted to the council for the establishment of works for the manufacture of sewer pipes, waterworks valves, etc.

**ST. THOMAS, ONT.**—John Farley, Q.C., acting for the Lake Erie & Detroit River Railway Company, has purchased land for right of way for extension of road from Ridgeway to this city.—The question of replacing the Wilson bridge with an iron structure is being considered by the city council.

**FORT ERIE, ONT.**—A meeting of the International Ferry Company will be held on December 7th, at which, it is understood, two propositions will be submitted by eastern capitalists for the purchase of the ferry and the building of an electric road from Niagara Falls to Crystal Beach and Point Abino.

**MIDLAND, ONT.**—The council will likely submit to the ratepayers a by-law to provide \$75,000 for a waterworks system, and \$5,000 for a sewer down the front street. A by-law has also been introduced in council to raise \$18,000 for taking over and improving the electric light plant.—F. W. Jeffery is about to

erect a new building on the Potvin property, corner King street and Dominion avenue.

**VANCOUVER, B.C.**—H. Abbott, president of the Vancouver and Lulu Island Railway, is this week taking tenders for building superstructure of railway bridge cross False Creek.—It is understood that a cablegram has been received from Hon. P. Mackintosh, who is now in England, to the effect that the necessary capital has been obtained for the carrying out of the Stave Lake Power Co.'s project.—The Canadian Pacific Lumber Co. have purchased the box factory at foot of Granville street and will improve and enlarge it.

**MONTREAL, QUE.**—Work on the new building for the Railway Y. M. C. A. at Point St. Charles will likely be commenced early in the spring.—The Royal Insurance Company have purchased the Ontario Bank building adjoining their own on Place d'Armes Square. The building will be completely modernized and connected on each floor with the Royal Insurance Co.'s building, although the Ontario Bank will continue to occupy their present offices on the ground floor, which will be remodelled. It will be remembered that the Liverpool, London & Globe recently purchased the property adjoining their building on the square, with the intention of erecting a large office building.—A. Content, architect, is this week taking tenders for the erection of a building, 40 x 200 feet, at Delormier park.—The city has given notice of its intention to construct sewers on Lavel street from Belanger street northward, and on Darling street, from Stadacona to Ontario street.—The Fire Committee will ask the council for \$12,000 for a new fire engine and \$5,000 for two hook and ladder trucks.—Building permits have been issued as follows: F. Lambert, three storey house, 100 St. Catherine street, cost \$2,900; Mrs. L. F. Ricker, two storey house, Hotel-de-Ville ave., cost \$2,550; J. Malone, two storey building, Magdalen st., cost \$2,200; J. T. Ewart, ice-house, 184 Murray st., cost \$2,000; J. B. Collette, two storey house, Charlevoix and Chateaugay sts., cost \$2,000; D. Genereux, three storey house, 38 to 44 Amherst st., cost \$3,100 (architect, S. Frapier).—H. G. Fuller, of Portland, Me., is looking into the question of establishing a plant here for the manufacture of felts for use in paper and pulp mills.

**WINNIPEG, MAN.**—The School Board invites tenders up to 5 p. m. of December 20th for supply of school desks. Address Stewart Mulvey, secretary-treasurer.—The Board of Trade have endorsed the proposal to construct a subway on Main street. It is said that the C.P.R. propose to make it 60 feet in width.—It is the intention of the C.P.R. to build a number of branch lines next spring.—The Winnipeg Industrial Exhibition Association is prepared to receive competitive designs up to December 23rd for a lithograph hanger or calendar, 23x29 inches, in not more than ten colors, for the year 1901. A cash prize of \$100 will be paid for the accepted design. Particulars from George G. Maulson, chairman advertising committee.—McKenzie & Mann state that there will be about 140 miles of their railway to be built next year.—The C.P.R. will apply at next session of parliament for a charter to build a railway from Stonewall to point on the east shore of Lake Manitoba.

**LONDON, ONT.**—A scheme is under way to build a belt line connecting all the railways running into London. Engineers Walker & McKay, representing the C. P. R. and L. E. and D. R. R., were in the city last week in connection with the project.—Tenders have been invited for the erection of a four story addition to the works of the McClary Mfg.

Co. Another story will also be added to one of the present buildings.—The city engineer is preparing plans for two sewerage filter beds of one third acre each. Tenders will be called for in a short time, although the work may not be commenced until spring.—Tenders closed Monday, 3rd inst., for a two story double house for Wm. Wyatt, Talbot street, London. W. D. Matthews, architect.—The opera house on Dundas street, owned by Alex. Harvey, is to be enlarged and remodelled into a first-class theatre. The plans, already prepared, provide for an auditorium with seating capacity of about 1,600.

**OTTAWA, ONT.**—It is stated that the Canada Life Insurance Co. purpose erecting a large building on corner of Sparks and Metcalfe streets.—Ex-Ald. Laing and Ald. W. D. Morris have purchased property at corner of Sussex and St. Patrick streets with a view to starting a woollen goods manufactory.—The Board of Health have adopted the revised plans for the proposed contagious diseases hospital to be erected at the Rideau rifle range park; estimated cost, \$45,500.—Arthur Thompson has had plans prepared for a six story office and bank building to be built next year.—The Ottawa Produce Co. have appointed a committee, including Messrs. E. W. Clarke, C. W. Mitchell and Frank O'Reilly, to call for tenders for a new cold storage building to be erected adjoining the present building on Nicholas street. Estimates will also be obtained for converting the present freezing system into a chemical system.—Montreal capitalists are said to have secured options on certain property near the old St. Lawrence and Ottawa station for the establishment of bridge works. The concern will erect a large building. Ald. W. J. Campbell is said to be interested.—Plans are being prepared for the erection of a large addition to the Russell House.—The C. P. R. will commence early in the spring the construction of its road across the city connecting the main and short line. J. D. McLean, Secretary Department of Indian Affairs, invites tenders up to Wednesday, 12th inst., for supply of the following: 33,000 railway ties, 10,000 cedar posts, 8 inches and over and under 8 inches in diameter, 500 cedar sawlogs; 200 cords of spruce and popular pulpwood. Cheque for 2 per cent. to accompany tender.

**TORONTO, ONT.**—J. Francis Brown, architect, Board of Trade building, is this week taking tenders for a residence on Brunswick avenue. He is also preparing plans for a pair of houses to be built on Howard street.—Repairs to the Toronto asylum are proposed.—It is probable that the by-law to raise about \$62,000 for new exhibition buildings will not be submitted to the ratepayers until the spring.—The Toronto Railway Company next spring purpose extending their line from its terminus at corner of Gerrard and Main streets, East Toronto, to the village of Little York.—The city council is inviting correspondence from persons or corporations interested in the formation of a company to construct a radial electric railway system of six or more branches running from St. Lawrence market. Messrs. S. F. Pearson, of New York, and B. T. Pearson, of Halifax, were recently in the city in connection with the matter.—The Ontario Government have not yet reached a decision regarding the site for the new reformatory for boys to be built in Oxford county.—The time for receiving tenders for annual supplies for the Works Department has been extended to Tuesday, 11th inst.—G. M. Miller & Company, 59 Yonge street, will receive tenders from all trades up to December 31st for erection of a pavilion at Hayden Shore Park, for the Whitby Street Railway & Park Company.—Tenders for the seating required in the new Technical School on College street are invited by the city up

to noon of 6th inst. Information on application to Dr. McMaster, at the Technical School.—Excavating has been commenced for new buildings on the south side of College ave., adjoining the Bishop Strachan school.—The city engineer has recommended a scoria block pavement for the track allowance on Sherbourne street, where the street railway tracks are being extended to join the car shops. He also recommends the construction of the following works. Asphalt pavement on College street, from Yonge to Spadina avenue, cost \$57,410; macadam roadway on Coolmine road, from Dundas street to St. Anne's road, cost \$1,990; cedar block pavement on Huron street, from St. Patrick to Cecil, cost \$2,750; wood kerbing Adelaide street, both sides, from Spadina avenue to Bathurst street, cost \$1,190; sewer on Glen road, from Elm avenue to south drive, and easterly along south drive to Int F., cost \$1,133; cement concrete sidewalks on Spadina ave., east side, Grange avenue to St. Patrick street, cost \$938; Richmond street, south side, Bay to Sheppard, cost \$331; Richmond street, north side, from 141 feet west of Bay to York street, cost \$1,122; Wellington street, north side, from York to Simcoe, cost \$604; Wellington street, north side, from Bay to 81 feet east of York street, cost \$1,416. Peter street, east side, from 144 feet south of Adelaide to King street, cost \$266. Brick pavements.—Bathurst street, from point 16 feet west of the bridge to a point 439 feet south, cost \$5,700; Ossington place, from Ossington avenue to 260 feet west, with four-foot brick sidewalk on each side, cost \$1,535.—The council has given notice of its intention to construct concrete sidewalks on the following streets: North side of Charles street, Yonge to Church, cost \$1,840; north side Harbord street, Robert to Borden, cost \$1,630, south side Melbourne avenue, Dufferin street to Cowan avenue, cost \$2,044; east side McCaul street, Caer Howell to College, cost \$1,353; west side McCaul street, Grange road to St. Patrick street, cost \$768, north side Howard street, Glen road to Sherbourne street, cost \$387.—Building permits have been granted as follows. Bell Telephone Co., two-storey brick office building, on Hayden street, near Yonge, cost \$12,000, Ald. Crane, pair of brick residences on Spadina road, near Bernard avenue, cost \$6,000; J. B. Smith & Sons, two-storey brick stable and lumber shed on Wellington avenue, cost \$3,000, John Fuller, two-storey brick dwelling, 22 Fuller street, cost \$,500; Toronto Plate Glass Company, four-storey brick addition to warehouse, 133 Victoria street, cost \$12,000.

#### FIRES.

Saw and shingle mill at Kilworthy, Ont., owned by Jas. Hart, Orillia.—Building of the Smith Wool Stock Co., 219 Front street east, Toronto, partially destroyed; loss on building and machinery, \$5,000.—Flour mill of the Cornwall Milling Co. at Cornwall, Ont., totally destroyed; loss \$18,000, insurance \$12,000.—Steamer Persia, burned at Toronto last week; loss \$18,000, insurance \$10,000.

#### CONTRACTS AWARDED.

MANITOWANING, ONT.—Mr. Button has let the contract for building his new broom handle factory.

SAULT STE. MARIE, ONT.—The contract for deepening the canal has been let to Jas. Whelan, of Port Arthur.

TORONTO, ONT.—J. F. Brown, architect, has let the contract for erection of a cottage on the island to T. P. Whitlan.

RAT PORTAGE, ONT.—The Gardiner, Rice, & McLeod Co. have awarded a contract to Stevens & McKinnon for extensive alterations to their store.

GRAND MERE, QUE.—Perrault & Co., of Deschambault, have been given the contract to construct water-works and drainage works for the municipality.

ST. JOHN, N. B.—G. E. Fairweather, architect, has accepted the following tenders for a residence to be built on Queen street for Mrs. A. L. Holman. Masonry, Corbett Bros.; carpenter work, A. L. Dodge.

AMHERST, N.S.—Rhodes, Curry & Co. have received a repeat order from the Dominion Coal Co. to build 600 tenement houses, the greater number of them at Glace Bay and Bridgeport. About 4,000,000 feet of lumber will be required in their construction.

YARMOUTH, N.S.—Kent & Wyman have secured contract from the Halifax & Yarmouth Railway Co. to build a freight extension to the station at Upper Woods Harbor; also combination flag stations and freight sheds at Lower Shag Harbor and Atwood's Brook.

LONDON, ONT.—Moore & Henry, architects, have accepted the following tenders for J. J. A. Hunt's residence on Harton street: Brickwork, Joshua Garratt; carpentry, Tambling & Jones.—W. H. Matthews, architect, has accepted the following tenders for a three storey residence for G. Matheson: Brickwork, Moran & Rudge; carpentry, R. Gilmour. For Mr. Boomer's residence contracts have been let as follows: Mason and brickwork, Moran & Rudge; carpentry, J. A. Matthews; plastering, R. Gas; galvanized iron work, Wm. Stevely; heating, Wm. Wyatt.

#### ARTIFICIAL DAYLIGHT.

A paper by Mr. A. Dufon, M. A., and Mr. W. M. Gardner was read at Bradford on "The Production of an Artificial Light of the Same Character as Daylight".—

It is a matter of common experience that many colours alter in appearance when seen by an artificial light. The extent to which colours may vary under different illumination is perhaps not commonly known, but is well illustrated by the range of dyed cloths exhibited. Amongst other patterns, one which is green by daylight becomes red brown by gaslight; a violet changes to purple; a grey to heliotrope; a shade of tan to a brick red. Particularly striking is a pattern woven from specially dyed yarns, which appears a uniform green colour by daylight, but which is figured by gaslight. Seen by the light of the electric arc, the patterns show similar but less marked changes.

It may be of interest to indicate briefly how such peculiar changes of colour arise. The colour of a body depends, in the first place, on the nature of the incident light. In monochromatic red light a red appears much the same as in daylight, but a yellow changes to red, a green is almost black, while blues and violets become red.

Gaslight shows a continuous spectrum from red to violet, but compared to daylight is of a strong orange colour due to an excess of rays in the red, orange and yellow. It does not, however, necessarily result that all colours appear redder by gaslight. It is, indeed, well known that the majority of colors change little by gaslight. This is due to the adaptability of the eye; if the light becomes redder the eye becomes less sensitive to red, if the light is deficient in green the eye becomes more sensitive to green. Persons

working by gaslight soon cease to notice its intense orange colour. It results that a gray produced by mixture of black and white appears grey under any illumination, and simple colours, such as reds, oranges and some greens giving light confined practically to one part of the spectrum, undergo little change.

Generally, however, the colour of a body is due to a mixture of light from different parts of the spectrum. All violet colours are transparent, not only for violet, but also for blue and red light; all blues transmit not only blue, violet and green light, but also more or less red. Consequently, whenever a blue or violet is used in the production of what is called by artists a "tertiary" colour, the general result is a colour having bright bands in different parts of the spectrum. A mixture of red, blue and yellow to produce a neutral grey will show bright bands in the red and green—complementary colours resulting in a proportion of white light. According to the exact position and intensity of these bands the grey will become redder or greener, or may even remain unchanged by gaslight.

#### JOINERY WORK.

A very good piece of joinery work is making a good drawing-board. The following is an excellent method of fitting up a standing drawing-board: The board is 6 ft. by 4 ft., and when standing at an angle of thirty degrees from a vertical plane the lower edge is 24 ins. from the floor. The straightedge is carried by two drums. These drums are keyed 5-16 in., shaft running the full length of the board. At midway of the shaft is another drum of the same diameter, which is wrapped in the opposite direction, and to which is attached the counterweight which balances the straight-edge. The carrier cords are of braided linen, are simply laced to the straight-edge. Each of the little holes shown at the ends of the straight-edge has in it a brass bushing, rounded at the ends to make the cord run through easily. At each end of straight-edge is a cleat 3 x 8 ins. thick, lapping the ends of the board to prevent any side movement.

#### BUSINESS NOTES.

Alex. Desmarteau has been appointed curator of the estate of P. Boileau & Freres, Isle Bizard, Que.

H. C. Kitchen & Company, plumbers and tinsmiths, Fredericton, N. B., have sold out to Edward Hurley and John McGoldrick.

**CENTRAL CANADA** LOAN AND SAVINGS COMPANY

Cor. King and Victoria Sts., TORONTO

Highest Market Prices paid for

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F. W. BAILLIE, Secretary. E. R. WOOD, Managing Director

**STEP AND FOLDING LADDERS.**

Time has worked changes in ladders, as in all things else. Great improvements have been made. The step ladder which is now very commonly used is in all the larger sizes made of skeleton construction. The modern step ladder is, indeed, in its way, eminently characteristic, combining lightness, sightliness, and strength with economy of material.

Of the old, familiar straight ladder, with two continuous side pieces and rungs between, called a pole ladder, because the two side pieces are made of the two halves of a spruce pole split for this purpose, there are fewer in use than formerly. This is especially true of the larger sizes. The change is due to the introduction and widespread use of hoisting machines, and also, in some measure, to the increased use of swinging scaffolds by painters, these scaffolds, however, being made by the ladder manufacturers. In the old days, when the hod carrier climbed the front of the building as its walls went up with the hod upon his shoulder, long ladders, 50 feet or thereabouts, were in common use. Now comparatively few such ladders are used. Ladder manufacturers make and keep always in stock pole ladders 10ft. to 32ft. in length, which would include the sizes in demand now. Such ladders are used now by painters and masons and carpenters, and also in shops.

There are sold now-a-days, especially in cities, many more sectional ladders than formerly. One of these, the window cleaner's ladder, with its peculiar tapering top section, made to fit over and rest against the corner bar of a window frame, is practical a new ladder within ten years. Within that time, too, window cleaning has come to be a trade followed to such an extent that the window cleaner himself, going to or from his work with his bucket in one hand and his jointed ladder on his shoulder, is no longer an unusual sight.

There are, however, other jointed or sectional ladders that are used in much larger numbers, and those are sectional ladders that are patented. Some are made in two and some in a greater number of sections, which nest together when the ladder is not in use. The sections are made to be set up into ladders of various lengths, generally of 35ft. and upwards. Sectional ladders are used by painters and sign writers and others. Ladders of this kind can be conveniently carried on a wagon.

There is another sort of folding ladder that is, as it has long been, in common use for the special purposes for which it is designed. That is a ladder in two sections hinged together at one end. In use this ladder is opened out at the ends not hinged, to stand upon the floor in the form of an inverted V. Two such ladders thus standing are used together, planks being laid between them, the ends of the planks resting upon the rungs of the ladders, the planks forming a platform to stand upon. Such ladders are used by plasterers and painters and decorators. This kind of folding ladder is made in various heights, of 8ft. to 20ft.

**THE FORM OF ICE-HOUSES.**

A Boston paper says: The best form for an ice-house would be that of a globe, because then we should have the greatest bulk with the least surface. Such a shaped house, however, would be inconvenient and expensive to construct. The next best form is a cylinder. Practically, however, an inverted truncated cone will give all the advantages of the cylindrical form, with the further advantage of being more economical in construction and in keeping in repair. The worst possible form is a cubical or square ice-house, for the corners of the ice in such a house will always melt away and leave the mass of ice round. The large amount of water which penetrates the ice in such an ice-house makes it porous, and it rarely happens that a square ice-house, unless very large and deep, will keep ice throughout the summer. In our climate ice-houses are rarely built above ground. The best way to construct one for family use, and this is the result of experience and observation, is to select a northern hillside or exposure where there is a good growth of forest trees. Lay off the circle on the surface of fifteen feet in diameter, and dig to the depth of fifteen feet, sloping so that the diameter of the excavation at the bottom may be ten feet. In this bottom of this sink a well six feet deep and five in diameter, for the purpose of catching the water from the melted ice. Over this well lay slabs of white oak or other hard wood, with the bark taken off and the rounded surface turned uppermost. Poles sixteen feet long and from five to six inches at the larger end are set up against the walls of the ice-house, the smaller ends being turned downward. The sloping sides of the ice-house and the tapering poles make a beautiful fit, and after the poles are adjusted the house will resemble a large churn turned bottom upward. If desired a few large hoops may be nailed to the poles above and below. The poles, however, will retain their position without the hoops. Over the house a square pen of frame-work three feet high should be erected and covered with a projecting roof. The earth should be thrown against the sides of the house until there is a slope outward in every direction. This will prevent the roof-water from running into the ice-house. Gutters for carrying off this roof water would be better and keep the earth near the pen from becoming saturated with water. The ends of the superstructure should be weatherboarded up, but slatted windows in both ends would be advantageous in permitting the hot air to escape. A large door should be constructed in one

end, so as to permit the ready housing of the ice. In putting up the ice, the first thing to be done is to throw straw enough in the bottom to cover the slabs two or three inches deep, after it is compressed by the weight of the ice. Straw must be kept also next to the sides, so that the ice will nowhere come in contact with the wood. When the ice-house shall have been filled on a level with the top of the ground, several wagon loads of straw should be used in covering it. If the entire roof is filled with straw, it will be all the better, though the ice will keep well if only a third of the roof is filled.

**DEBENTURES**

Municipalities contemplating the issue of Debentures will find it to their advantage to communicate with

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MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

DATE OF PUBLICATION.

Architects, engineers, municipal authorities and others are reminded that the CONTRACT RECORD is printed every Tuesday afternoon, and that advertisements should reach the office of publication not later than 2 o'clock p.m. on that day to ensure insertion in the issue of the current week. Advertisements are frequently received too late for insertion, to avoid which special attention is directed to this announcement.

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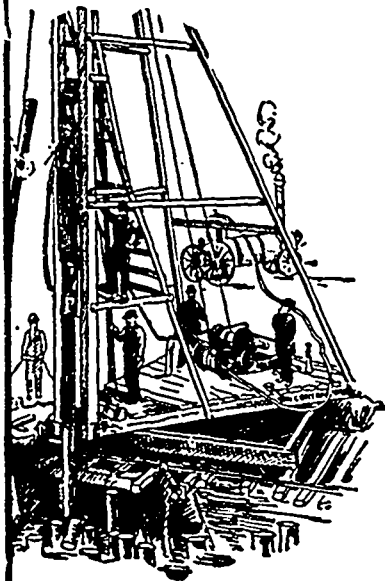
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Correspondence invited. . . . .

GEO. S. KILBOURN, Secretary-Treasurer.

WORKS: Shallow Lake, Ont. - HEAD OFFICE: Owen Sound, Ont.

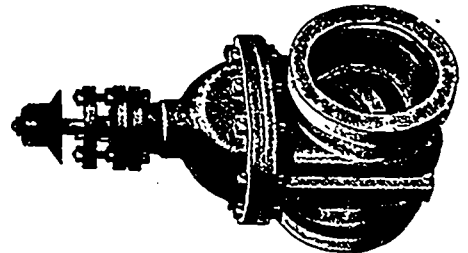
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Write for Discounts

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# MUNICIPAL DEPARTMENT

## COST OF SIDEWALKS.

The City Engineer of Toronto has prepared a comparative statement of the cost of sidewalks per foot frontage, showing the amount of annual payments, which extend over a period of ten years:—

Width.	Brick.	Concrete (Light)	Concrete (Heavy)
4 ft.	7 3-10c.	8 3-10c.	
5 ft.	9 1-5c.	10 2-5c.	
6 ft.	11c.	12 3-10c.	14 7-10c.
8 ft.	14 7-10c.	10 3-5c.	19 7-10c.
10 ft.	18 2-5c.	.....	24 3-5c.
12 ft.	22 1-10c.	.....	29 1-2c.

The annual payments for wooden sidewalks extend over a period of three years only, and are consequently larger, although the total cost per foot frontage is less. The cost of the wooden walks annually for three years is:— Three feet wide, cost 6 1-10c; 4 ft. wide, 7 9-10c; 5 1-3 ft. wide, 10 4-5c; 6 ft. wide, 11 4-5c; 8 ft. wide, 14 2-5c; 10 ft. wide 18c; 12 ft. wide, 21 3-5c.

## LEGAL DECISIONS AFFECTING MUNICIPALITIES.

**ORR VS. TOWNSHIP OF TORONTO.**— Judgment on appeal by defendants from judgment of County Court of Peel in action to continue an injunction restraining defendants from causing water or other matter to flood or flow upon plaintiff's lands and to direct them to close a certain culvert built by them across the highway opposite his farm, and for damages. It was contended for defendants that they were under statutory obligation to keep the highway in repair, and in doing the repairs or acts complained of merely performed that obligation; that the repairs were necessary, that the construction of the culvert providing only for the flow of water accumulated on the west side of the road was proper, and in its construction they were within their statutory powers, and plaintiff's remedy, if any, was under sec. 437 et. seq. of the Municipal Act; that the damages, \$100, were excessive; and that both damages and injunction should not have been granted. Held, that, Semble this case does not come within the ratio decidendi of *Iratt. v. Stratford*, 14 O. R., 260; 16 A. R. 5 relied on at bar, but rather within the principal of *New Westminster v. Brighthouse*, 20 S.C.R., 520, but it is unnecessary to decide this because the finding below as to defendant's negligence is justified by the evidence, and therefore fatal to them, per *Strong C.J.O.*, in *Derinzy v. Ottawa*, 15 A. R., 712. Held, also, that taking into consideration the evidence as to bringing down of mustard seed as result of defendants' acts the damages were not excessive. As to the

injunction the proper course is to suspend its operation for a sufficient time to enable defendants to exercise the statutory power of expropriation and acquire the land to justify their otherwise wrongful act, and such time is extended until 1st May next. With this variation judgment below affirmed with costs and appeal dismissed with costs.

## TO GET RID OF SEWER GAS.

Philadelphia is making tests of various methods of getting rid of sewer gas. Among those employed is one of a patent sewer gas extracting and destroying-lamp which has proved very successful in Europe. It is well known that the best means for the disposal of sewer gases is combustion through a high temperature. The lamp made use of is designed with a view to the production of this high temperature and its accompanying combustion. It is almost air-tight, and has three gas jets inside, of which one keeps constantly burning with a small flame. The other two are supposed to be burning when the gas is escaping from the sewer at its full capacity, which is generally in the day time. These two lights can be extinguished or lighted from the outside. When the illuminating gas is turned on, the sewer gas is highly exhilarated, and, according to tests already made, about 3,000 cubic feet of gas passes into the lamp per hour. In escaping it comes in contact with the flames, which in the lamp obtain a temperature of from 600 to 800 degrees Fahrenheit, and can be increased to probably 1000 degrees. The high temperature

decomposes the ammonia and destroys the bacteria. The air from the sewer supplies the oxygen necessary for the combustion of the illuminating gas.

## BRITISH COLUMBIA GOOD ROADS ASSOCIATION.

The annual meeting of the British Columbia Good Roads Association will be held in Victoria, B.C., during the session of the Farmers' Central Institute, which will open on December 17. Steps have been taken to organize the whole province through the several vice-presidents, so that there may be a thoroughly representative gathering at this meeting.

Mr. F. J. Deane, the president of the association, has caused to be circulated a letter to all vice-presidents urging upon them the necessity of at once taking up the matter of organization. Mr. Deane has also been in correspondence with Mr. A. W. Campbell, Provincial Road Instructor for Ontario, who has given suggestions in connection with the movement. Mr. Campbell states that the chief object of a Good Roads Association should be: To educate the people as to how roads should be made, and in the economy of doing work so far as possible in a finished manner, consistent with the requirements of travel; what kind of implements should be employed and how they should be operated; and to create general interest in the subject.

Mention the CONTRACT RECORD when figuring on municipal works advertised in this paper.

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Largest Makers in the World.

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HIGHEST GRADE

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Sewer Pipes, Best English Cements. Best Belgian Cements.  
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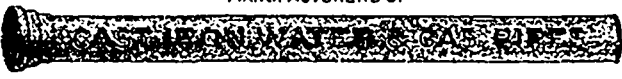
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Table listing prices for various STONE materials. Includes items like Common Rubble, Granite, Sandstone, etc.

INDEX TO ADVERTISEMENTS

In the "Canadian Architect and Builder."

Large index table listing various categories of advertisements such as Architects, Omentors, Interior Decoration, Roofing Material, etc.

CREDIT VALLEY STONE.

Table listing prices for Credit Valley STONE. Includes items like Rubble, Brown Coursing, etc.

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Table listing prices for SLATE. Includes items like Roofing, Terra Cotta Tile, etc.

CEMENT, LIME, etc.

Table listing prices for CEMENT, LIME, and other materials. Includes items like Portland Cement, Hydraulic Cements, etc.

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Table listing prices for Lead Pipe. Includes items like Lead pipe, Waste pipe.

Table listing prices for Galvanized Iron. Includes items like Adam's-Mar's Best, 16 to 24 gauge, etc.

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