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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.

NOVEMBER 21, 1895

No. 42.

THE CANADIAN CONTRACT RECORD,

PUBLISHED EVERY THURSDAY

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

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NOTICE TO CONTRACTORS

Tenders for Annual Supplies

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 12 o'clock a. m. on SATURDAY, NOVEMBER 23, 1895, for the following supplies for the year ending December, 1896:

Lumber,	Hardware, etc.
Pit Gravel,	Wire Nails,
Sand,	Sewer Pipe,
Cedar Paving Posts,	Horse Feed,
	Castings.

Specifications may be seen and forms of tender obtained at the office of the City Engineer, Toronto, on and after the 16th November, 1895.

A marked cheque, payable to the order of the City Treasurer, Toronto, for 5 per cent. of the amount tendered for, must accompany each and every tender, otherwise it shall be ruled out as informal.

The lowest or any tender not necessarily accepted.

DANIEL LAMB,
Chairman Committee on Works.

Committee Room, Toronto, Nov. 21st, 1895.

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OFFICE PARTITION—11½ feet long, 5 feet high about 3 feet wood and 2 feet glass, preferably with door. Give price and state where to be seen. Box 99, office of the CONTRACT RECORD, 106 Confederation Life Building, Toronto.

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For whatever use intended, the essentials of a good paint are:—

First.—That it shall adhere firmly to the surface over which it is spread, and not chip or peel off. It must be non-corrosive to the material it is used to protect, as well as to itself under long periods at atmospheric exposure and chemical changes. It must form a surface hard enough to resist frictional influences, yet elastic enough to conform to all changes of temperature, or with a co-efficient of elasticity approximately as near the material it covers as possible. It must be impervious to and unaffected by moisture and atmospheric and other influences to which the structure may be exposed.

Second.—That it shall work properly during its application, a property that depends largely upon the relative amounts of pigment and liquid; the nature of both pigment and liquid also have influences that govern results.

Third.—That it shall dry with sufficient rapidity. This function depends mostly upon the vehicle or liquid used with the pigment, though the pigment has in many cases an influence.

Fourth.—That it shall have proper durability, which is a function both of the pigment and liquid. And as the question of cost is in many cases the governing factor in the selection of a paint, the question of durability may be regarded as the most important one of the list; though it can be imagined that a paint can be durable *per se*, and not be protective in the strict sense of the word, as can be illustrated in the case of a good paint applied to the surface of a sheet of iron coated with rust; the liquid element in the paint will not absorb or neutralise the corrosion which it covers, but will dry regardless of it, and permit the destruction of the metal to progress beneath its coat.

Fifth.—Covering power, by which is meant the power of a pigment to so cover the surface to which it may be applied that its protection from decay is not only assured, but that the minimum amount of paint shall effect this purpose.

CONTRACTS OPEN.

TAMWORTH, ONT.—Sampson Shields is erecting a new house.

NIAGARA FALLS, ONT.—Some improvements will be made to the pumping station.

SANDON, B. C.—Devereux & Prevost are negotiating to put in a waterworks system.

VERNON, B. C.—The Council is introducing a by-law to provide for a waterworks system.

HIBBERT, ONT.—The ratepayers of School Section No. 2 have decided to build a new school with basement.

WINNIPEG, MAN.—The trustees of Maple street church are considering certain improvements to the building.

SHERBROOKE, QUE. The Provincial Government has passed a bill to incorporate the Sherbrooke Street Railway Company.

ROSTOCK, ONT.—Mr. Windland purposes erecting a brick shoe shop in the spring.—Albert Schenck will build a brick residence.

ARNPRIOR, ONT. The new post-office here will be three stories high, of brick, with cut stone trimmings, a tower and a four-dial clock, cost \$20,000.

COLLINGWOOD, ONT.—It is stated that the C. P. R. will build another boat this fall.—Building operations here for next season are somewhat brighter.

WALKERTON, ONT.—James Warren, C. E., of this town, has gone to Creemore to take levels and make the necessary surveys for a system of waterworks.

LONDON, ONT.—Mrs. Angles, of 481 Grey street, has taken out a building permit for a storey and a half brick veneered house on Grey street, to cost \$1,000.

FREDERICTON, N. B.—O. M. Hart, of New York, has been endeavoring to establish a boot and shoe factory here, for which a capital of \$50,000 would be required.

ST. BONIFACE, MAN.—The residents are taking steps to secure the construction of a bridge across the Red River, and a by-law will be voted on at the municipal elections.

AYLMER, QUE.—R. H. and W. Conroy have made a proposition to light the town by electricity, and a bylaw will shortly be submitted to the ratepayers on the question.

ST. STEPHEN, N. B.—A company has been formed, with a capital of \$4,000, to build a skating and curling rink. Among the promoters are: C. W. Young, Henry Graham and D. F. Maxwell.

ROSSLAND, B. C.—As a result of the visit of Mr. McLarsen, of Colorado, it has been decided to form a company, with a capital of \$250,000, to erect reduction works, the site for which has not yet been selected.

KINGSTON, ONT.—The School Board has passed a resolution requesting the

City Council to prepare a by-law for submission to the ratepayers to raise the sum of \$20,000 for erecting a new school building.

CHATHAM, N. B.—Adams & Co., of New York, who have purchased the property of the St. Lawrence Lumber Co., will build a railway from the Caraquet line to Tracadie. Subsidies for this branch are available.

QUEBEC, QUE.—W. A. Marsh contemplates erecting a shoe factory on St. Ours street.—A deputation from this city has requested the Dominion Government to grant aid towards the St. John railway and for building a wharf at Chicoutimi.

SAULT STE. MARIE, ONT.—It is said that the largest paper mill in the world will be erected here by the Sault Ste. Marie Pulp & Paper Co., of which Messrs. Drexel, Morgan & Co. are the backers. Orders for machinery are already placed.

BLenheim, ONT.—The plans of J. T. Wilson, architect, of Chatham, have been adopted by the Board of Directors for the new Presbyterian church.—Mr. Wilson will call for tenders in a few days for the erection of a combined town and fire hall.

BRANFORD, ONT.—The Provincial Board of Health has recommended improvements to the water supply, among which are the following: construct a tile drain to the outlet of the creek, and place at mouth of creek a dam with a culvert to allow the flood waters to flow off.

RENFREW, ONT.—The Council has purchased a site for the proposed hospital.—Messrs. John Ferguson, M. P., M. J. O'Brien and A. M. Campbell, electrical engineer of Kingston, last week inspected the proposed railway route from Portage du Fort to this town, and the water power of the Ottawa river in that neighborhood.

VANCOUVER, B. C.—The City Council have approved of the proposal of G. T. Moncton, to establish a smelter and refining works in this city, and a by-law will be submitted to the ratepayers to grant him a bonus. The total cost of the works is to be between \$350,000 and \$400,000, the most expensive part being the refinery.

ST. HENRI, QUE.—The Town Council has decided on several improvements to the public buildings, among which are the enlargement of the town hall, the transformation of Chief Massey's former residence with a recorder's court and sleeping room for firemen and the erection of new stables and prison cells. The work will cost upwards of \$10,000.

ST. THOMAS, ONT.—The electric railway agreement will be considered at a council meeting to be held this week.—Mr. Owen McKay, assistant engineer of the Lake Erie and Detroit River Railroad is surveying a line about two miles in length, connecting the C. P. R. with the L. E. & D. R. R. The two companies will, it is understood, use the one station.

WALLACEBURG, ONT.—The Sydenham Glass Co. will rebuild their warehouse at once, the new building to be larger than the former one.—The town will soon become incorporated and the waterworks question will be revived by the next council. They will issue debentures in a short time.—Chas. Chubb will rebuild his residence which was destroyed by fire recently.

LINDSAY, ONT.—Mr. R. P. Fairburn, of the Ontario Public Works Department, has taken measurements connected with the proposed enlargement of the basin at the Lindsay street swing bridge, the work having been petitioned for by the town and county councils. It is expected an appropriation will be placed in next years estimates.—John Dovey has decided not to rebuild his saw mill until the spring.

CHATHAM, ONT.—The Chatham Gas

and Electric Co. propose putting in new machines and engines and remodeling their plant in the spring.—The County Council of Kent have the erection of a House of Refuge under consideration. They will put an addition to the jail and put in a better system of heating.—The city will lay about four miles of granolithic walk next year.—The northerly approach to the 6th street bridge, will have to be repaired in the spring.—C. R. Oldershaw, architect, has prepared plans which have been accepted for a new 16 roomed public school, brick, electric bells, hot air heating, etc. Cost \$30,000.

BROCKVILLE, ONT.—A new school building is to be erected on the site of the present James street school, and at the last meeting of the School Board a committee was appointed, consisting of Dr. Horton, A. A. Davis, Samuel Simpson, John M. Gill and John Menish, to procure plans and estimates for a four roomed two-storey building with all modern conveniences and appliances, and to report thereon at next board meeting.—W. H. Comstock will erect a new residence in the east end. It will be 41 x 47 feet, with large wing, two stories and mansard roof. The first of cut stone and the second of brick.—A. D. Young has purchased a lot on which to build.

HAMILTON, ONT.—The Hamilton Radial Railway Co. has given notice that application will be made to Parliament for power to extend the Guelph branch to Lake Huron.—W. Stewart, architect, has prepared plans for the new Collegiate Institute and Normal school. The building will be 250 ft. x 150 ft., three storeys, with wings at both sides and clock tower in center, built of brick, with brown stone trimmings. It will contain amphitheatre, principal's room, large class rooms, gymnasium, lavatories, chemical and physical laboratories, museum, assembly hall, etc. A committee has been appointed to visit Pittsburg and examine a new system of heating in the schools there.—The petition for the deepening of the Beach canal has been referred to the Department of Public Works, Ottawa.

ST. JOHN, N. B.—The erection of warehouses and other landing facilities for the Beaver line is to be proceeded with at once at Sand Point.—An iron bridge has just been completed, under the plans and superintendence of City Engineer Peters, over Newman's brook. Span 90 feet, 2 roadways of 12 feet wide each and a sidewalk 6 feet wide, bowstring girders. Cost \$2,315 with \$400 additional for six granite piers for ends of girders. The engineer has now in course of erection a wooden warehouse, 300 x 70 on the Furness line wharf, cost about \$5,000.—It is the intention of the School Board to invite competitive plans from architects for the new high school building. It will be of brick, three stories with mansard roof. Details will shortly be decided on.

OTTAWA, ONT.—No decision has as yet been arrived at by the C. P. R. authorities regarding the rebuilding of their depot, but it is anticipated that steps will be taken at once to rebuild.—The statement has been made that a Masonic temple was to be erected on Queen street, but prominent members of the order state that nothing definite has been arrived at owing to the question of finances.—A. McNaughton proposes to erect a brick veneered house, on First avenue, and Wm. Stewart, four framed dwellings on same street. P. Roy is also about to build on Second ave.—Plans are being prepared by the Department of Public Works for the new reformatory at Alexandria. These are for the wing of the establishment that is to be built by contract. When this portion has been completed, the remainder of the buildings will be constructed by convict labor.—The petition for the paving of Sussex street has

been sufficiently signed.—It is the intention of the Ottawa Electric Railway Co. to erect in the spring at Hintonburg, a large new building for theatre purposes. The site will be on the land known as Holland's Grove.—A new church is to be erected by the congregation of McLeod street church, for which \$7,000 has already been subscribed.—John Henderson, City Clerk, invites tenders until the 28th inst., for the purchase of \$172,889.67 worth of corporation debentures.

MONTREAL, QUE.—The Dominion Cotton Mills Co. will place upon the market \$1,500,000 of 20 year 4½ per cent. debentures.—Application will be made to Parliament for an act extending the time within which the South Western Railway Company may complete their line.—Mr. J. C. Wilson, the well-known paper manufacturer, has offered to contribute \$5,000 towards an institution for the technical education of working men in Montreal, providing the city and Government contribute the balance required to erect and equip the school.—The Dominion Government is said to be negotiating with a prominent contractor here to build a telegraph line from Boone Bay, Newfoundland, to the straits of Belle Isle, a distance of 200 miles. It is likely the scheme will be carried out next season.—The Road Committee has given notice that a sewer will be constructed on St. Patrick st., from Dargenson st. westward.

TORONTO, ONT.—An influential deputation waited upon the Provincial Government last week requesting that an extension of time be granted the C. P. R. in which to complete two sections of the Montreal and Ottawa railway running through the counties of Russell and Prescott. The Government promised the usual consideration.—A meeting of the directors of the Dominion Cold Storage Co. was held here last week, at which it was decided to at once construct the warehouses in Montreal, Toronto and Brantford, and to erect a complete system of warehouses throughout the Dominion. Among the promoters of the company are Dr. Sylvester, of Toronto, and D. M. McPherson, of Lancaster.—The Toronto Electric Light Company are about to erect a new arc lighting station to cost about \$20,000. The building will be constructed of brick and iron.—The fifty-eighth annual report of the House of Industry, recently issued, calls attention to the necessity for increased accommodation.—The foundation for the Cobban Mfg. Co.'s new building on the Esplanade will be commenced this week, and building operations will be commenced in the early spring.—The City Council has resolved to construct a new intake pipe across the bay to replace the present wooden conduit, and tenders will likely be invited next week for the work, which it is estimated will cost \$75,000. Estimates will be asked for both iron and steel pipe.—Mr. Mansergh, C. E., has completed the surveys necessary for his report on the waterworks system, after having examined the different schemes under consideration. His report will be presented about the end of January.—Tenders for furnishing one or more steam fire engines are invited by Geo. McMurrich, Chairman Fire and Light Committee, until Monday, the 2nd of December. The city will purchase one engine, and if the necessary funds are available the second one will probably be purchased. Specifications may be seen at the Bay street fire hall.—The Fire and Light Committee also asks tenders until the same date for furnishing one two-horse horse wagon.—Building permits have been granted as follows; Lawrence Bros., 2 storey bk. bakery and stable, rear 38 Denison ave., cost \$3,000; church warden's, St. Stephen's church, 2 storey bk. gymnasium and class rooms, cor. College st., and Bellevue ave., cost \$1,500.

FIRES.

The residence of Wm. Boyle, between Merritt and Thorold, Ont., was destroyed by fire a few days ago. Loss, \$1,500; insurance, \$800.—Roblin's saw mill and evaporator at Ameliasburg, Ont., were burned on the 14th inst. Loss, \$4,000; insurance, \$1,000.—Wm. Stanlick's hotel at Rathbun, Ont., a village on the Central Ontario railway, was destroyed by fire last week. Loss partially covered by insurance.—The brick residence of Capt. John Covell at Brighton, Ont., was burned on the 15th inst. Small insurance.—The Canadian Pacific Railway depot at Ottawa, Ont., has been burned. It was a wooden structure, and the loss is placed at \$12,000, fully covered by insurance.—The Indian home at Elkhorn, Man., established by the Dominion Government, was totally destroyed by fire recently. Loss \$15,000.—Fire totally destroyed the Merrickville Milling Company's premises at Merrickville, Ont., on the 13th inst. Loss about \$15,000; insurance \$9,000.—Martin McGains saw mill at St. Andrew, Ont., has been burned. Insurance, \$1,300.—The lighthouse at Valois Bay, Que., was destroyed by fire last week.—The hotel and outbuildings at Sharon, Ont., owned by D. R. Rowan, of Guelph, were destroyed by fire on Monday last. The loss is covered by insurance.—Wright's grist mill at Bradford, Ont., was destroyed by fire on the 19th inst. Loss, \$20,000; insurance, \$12,000.—The residence of Charles Chubb, reeve of Wallaceburg, Ont., has been burned. Loss, \$4,000, with insurance of \$2,000.—A block of four brick houses on Van Horne avenue, Outremont, Que., the property of F. Luguier, were consumed by fire on Saturday last. Loss, \$3,000.—The residences of M. Hiltz and R. W. Burton at Minnedosa, Man., have been burned.

CONTRACTS AWARDED.

VICTORIA, B. C.—Ald. Bragg has secured the contract for building an addition to Spencer's Arcade.

ST. JOHN, N. B.—James H. Doody has been awarded the contract for plumbing for the new Aberdeen school.

BRUNNER, ONT.—Wm. Houghton, of this place has secured the contract of improving the N. B. C. drain, at the price of \$2,275.

GANANOQUE, ONT.—Mitchell & Wilson have secured the contract for the Bennett block, corner King and Stone streets.

HULL, QUE.—The Quebec authorities have awarded a contract to Fortin & Gravelle for an ornamental stone fence around the court house.

BIENVILLE, QUE. The contracts for the erection of a chapel have been awarded as follows: masonry, Jos. Coutine; carpenter and joiners' work, C. Dion.

NELSON, B. C.—A contract for pipe, Pelton wheel and all connections, has been awarded to the B. C. Iron Works by the electric light company. The contract price is \$2,400.

PETERBOBO' ONT.—The tender of Winch & Grant for the substructure of a bridge on George street over Spauldings Bay has been recommended for acceptance. Price \$1,825.

WINNIPEG, MAN.—J. W. Buchanan, contractor, has been awarded a contract by the C. P. R. to take out 80,000 ties for track improvement. Other extensive tie contracts have recently been let by the C. P. R.

KINGSTON, ONT.—Contracts have been awarded as follows for improvements to Craig & Co.'s warerooms: carpentry, masonry, painting and glazing, Davidson & McGoy; heating apparatus, James Jamieson.

MONTREAL, QUE.—C. E. Fournier,

architect, has awarded contracts for tenement houses on Mitcheson street for F. Bayard, as follows: Excavation, T. Ouimet; masonry, M. Paquette. Other trades not let.

BRIDGETOWN, N. S.—Curry Bros. & Bent, contractors, are at work on a station at Wilmot for the D. A. R., and three stations for the Coast Railway Company of Yarmouth. They have just closed contracts for two buildings in Halifax, a manse on Robie street and a store and warehouse for Martin, Young & Co., Barrington street.

OTTAWA, ONT.—Tenders were received by the Waterworks Committee for new street sprinkling tanks, wider wheels, new axles, and other repairs as follows: J. W. McAdam, \$1,685 and \$1,941; J. Foss & Son, \$1,675, there being no tender for No. 2 contract; Gauthier Bros., \$1,484 and \$1,742; C. C. Cumming, \$1,362 and \$1,192; J. & P. Armstrong, \$1,920 and \$2,032; Ottawa Car Co., \$1,430 and \$1,460; L. Duhamel, \$1,669 and \$1,948; L. E. Shaver, \$1,546. The work has been given to C. C. Cumming.

BUSINESS NOTES.

W. M. Stafford, tinsmith, Toronto, is reported to have assigned.

Burt & Rousseau, electricians, Montreal, have dissolved partnership.


Geo. Beaucage, stone contractor, of St. Albans, Que., is asking an extension of time.

French & Penman, plumbers, Halifax N. S., have dissolved, Frank J. Penman continuing.

Wallace Campsan, contractor, Kingston, Ont., is reported to have assigned to J. W. Bawden.

The plant and foundry buildings of Wm. Clendinning & Son, iron founders, are being offered for sale by the curators. Information may be obtained from Kent & Turcotte, 97 St. James street, Montreal.

A statement of the affairs of W. B. Malcolm, plumbers' supplies, Toronto, shows the total assets to be \$40,169.88, and the direct liabilities \$22,859.54. It has been decided that the business be continued for some months by the assignee.

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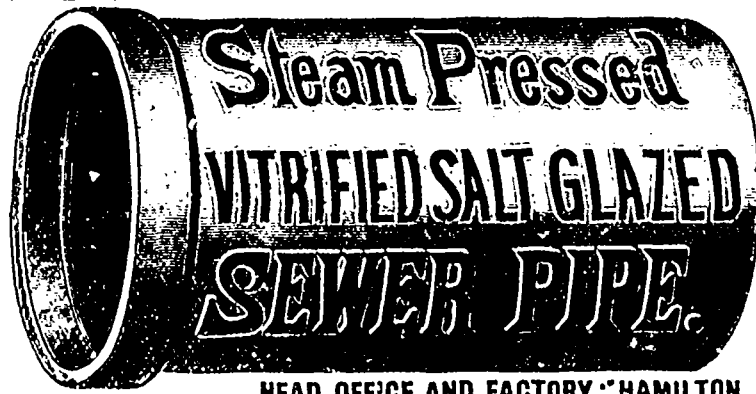
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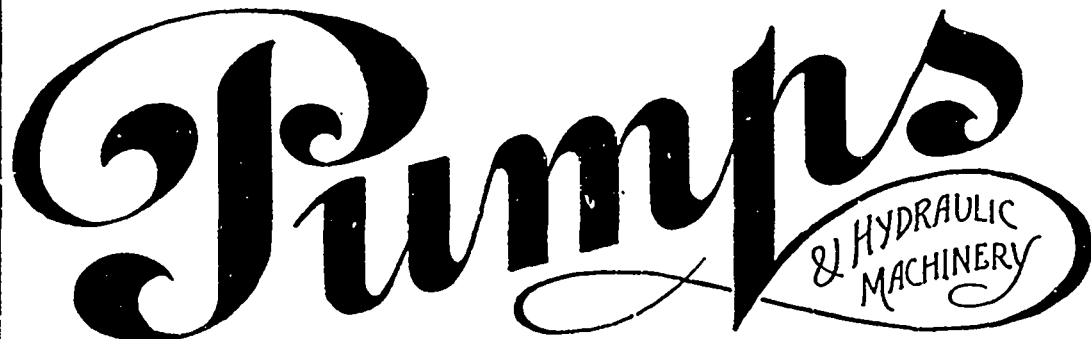
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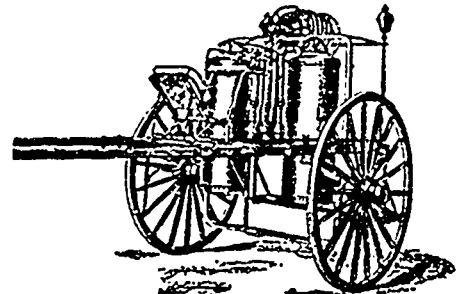
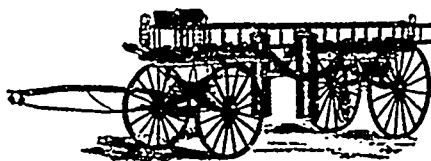
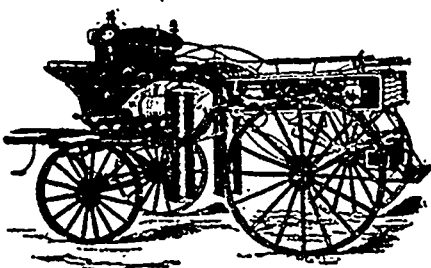
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MUNICIPAL DEPARTMENT

PUBLIC BATHS.

The town of Brookline, Mass., says Domestic Engineering, voted last week to enter upon a class of civic work which will in the future be looked upon as essential to the development of all well regulated municipalities—that is the construction of a public bath house. The one that the town of Brookline proposes to build is to be a brick structure, centrally located, containing bath tubs, rain baths and swimming tanks, thus providing for the cleanliness and health of the people, and at the same time affording means of recreation, and through teachers, instruction in swimming. As the town of Brookline does not border on the sea, or on a lake or pond, or even a brook that can be made available for this purpose, the water supply has to be procured from the street mains, and, if need be, heated to the proper temperature. For the present the swimming tank will be kept open but for six months out of the year, when the temperature can be easily maintained at the height needed for comfortable bathing; but we dare say that, as the town grows larger and the demands upon the bath house increase in number, it will be found desirable to maintain the swimming tank ready for use throughout the entire year.

Bathing houses of this description are considered necessary adjuncts in the English and Scotch cities. The city of Manchester, for example, has eight of these establishments, which are open daily all the year round, including 3½ hours of Sunday during the warm season. The effort of the corporation in Manchester is to make these baths partly self-supporting, and, as a rule, they succeed in getting in fees about half of what is paid out in wages and for insurance, coal, gas, water, repairs and supplies. This income is secured by a small charge which is made for the use of these facilities. The official list of prices in Manchester is as follows:

First-class plunge, 4d; second-class plunge, 2d, except Wednesday, and on Wednesday, 1d; special warm baths, 8d, first-class warm bath, 4d, second class warm bath, 2d, except Wednesday, and on Wednesday, 1d; Turkish bath, 1s; Turkish baths on Thursday, for ladies only, 1s, vapor baths, first class, 8d; vapor baths, second-class, 6d.

There are parts of some of the bath buildings that are intended specially for women, and where this division is not made days are set apart when women are to have the entire use of these establishments. For persons under 15 years of age a first-class plunge is 2d, a second-class plunge 1d, each, though these tickets are only available up to 2:00'clock p. m. of each week day. These baths may, by arrangement, be used for 1d by school

children, bathing on Monday and Thursday mornings, on Tuesday and Friday mornings for ½ d, and on Friday afternoon from 4:00 to 6:00, and Saturday morning from 9:00 to 12:00 at the ½ d rate. The same days, times and rules apply to girls as to boys. Penny tickets in lots of not less than 250 are issued to girls' classes at the schools, admitting the members to the women's first-class plunge baths at such times as may be previously arranged with the superintendents of these baths, these to be used in numbers not less than twelve, the bathers to be accompanied by some adult person duly appointed to take charge of them. Yearly season tickets are issued to members of swimming clubs at a charge of 7s 6d each, such tickets to be used only on two specific days of the week. Members of swimming clubs not holding season tickets are admitted to the first-class plunge baths at a charge of 2d each on such evenings.

It is not probable that such an extensive bath system can be immediately introduced into this country, and as the scale of wages received for personal services is higher with us than it is in England, it is also probable that in certain departments of a bathing system, where manual labor counts for considerable, as, for example, in the Turkish bath, the scale of charges would need to be higher than that established at Manchester. But if our English cousins, who have carried the work of municipal development to a higher degree than we have in this country, consider that the establishment of baths is just as essential as the laying out of parks, we shall soon come to their way of thinking in this matter. The result of the action taken by Brookline will be watched by other municipalities with a great deal of interest.

SOME CONSIDERATIONS WHICH AFFECT THE ECONOMY OF HIGH-DUTY PUMPING ENGINES.

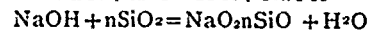
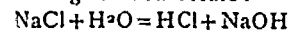
If a pumping engine is to run 24 hours a day, it is of much more importance that it should be economical in fuel than if the time of running is limited to a few hours, and a much larger amount of money can profitably be invested in securing the economical type of engine. In many of the smaller water-works stations the capacity of the engine selected is sufficiently great, so that in the first place provision may be made for future increase of supply, and in the second place that the necessary amount of pumping may be performed by working the engine only a few hours each day. These practical considerations must have the first place whether the type of engine selected is economical in fuel or wasteful; but the bearing which they have on the ultimate economy of the engine may be, and often is, lost sight of. In a case of this kind the interest on the money invested in an expensive though economical plant will very soon be sufficient to balance any saving of money due to the increased fuel economy, especially if account be also taken of the depreciation and repairs.

Take, for example, the case of a 2,000-gallon pumping engine where the cost

of fuel is \$5 per ton. If we suppose the water is pumped against a head of 265 ft., and the number of hours of work is six each day, the difference in the economy of fuel produced by a 60,000-gallon duty, which can be realized by an ordinary compound duplex condensing pump, and a duty of 90,000,000, which can be attained by some form of high-duty pump, would be, in round numbers, \$500 per year, and this is sufficient to pay an interest and depreciation charge at the rate of 12½ per cent. on only \$4,000. Should the cost of the more economical engine exceed that of the low-duty engine to the extent of \$4,000, there would be no real economy secured unless the number of hours of pumping each day exceeded six. If the committees who are empowered to purchase pumping engines would consider this question in its true light it would not infrequently happen that the selection of an engine would fall to the less economical machine.

GLAZING OF SEWER-PIPE.

All sewer-pipes are glazed with salt, which is put into the fire holes and volatilizes, the vapors spreading through the kiln and uniting with the silica on the surface of the pipe to form a glazed coat. The following reaction occurs:



Glazing requires from one to two hours. Some manufacturers add manganese to the salt to produce a glaze of the required color. The chief sewer-pipe manufacturing region is in the Ohio valley, which produces the greatest quantity of pipe in the whole country.

In speaking of water waste Fire and Water gives the following official figures from experiments in Bangor, Me., showing how fast water will run through a pipe: With a pressure of 100 pounds there will run through an orifice an eighth of an inch in diameter 270 gallons per hour; through a quarter-inch aperture, 1,080 gallons an hour; through a half-inch, 4,320 gallons per hour, through a three-quarter-inch, 11,160, and through an inch, 17,000. This would be using water pretty fast, and illustrates how much water would run to waste in the course of a cold night if a tap were left running wide open.

The contractors for the Orangeville, Ont., waterworks, have struck a big under-surface freshet near the head of the conduit pipe. It was found necessary to arrange for a reservoir, and in excavating for that purpose to a depth of 13 feet a gravel bed was struck, from which flowed a regular underground river. The excavation is only 29 by 50, yet it is equal to a supply of 440,000 gallons daily, quite three times as much as the town needs. The ridge whence the Orangeville flow proceeds is about the highest point in this part of the province, the town being situated over 1,100 feet above Toronto.

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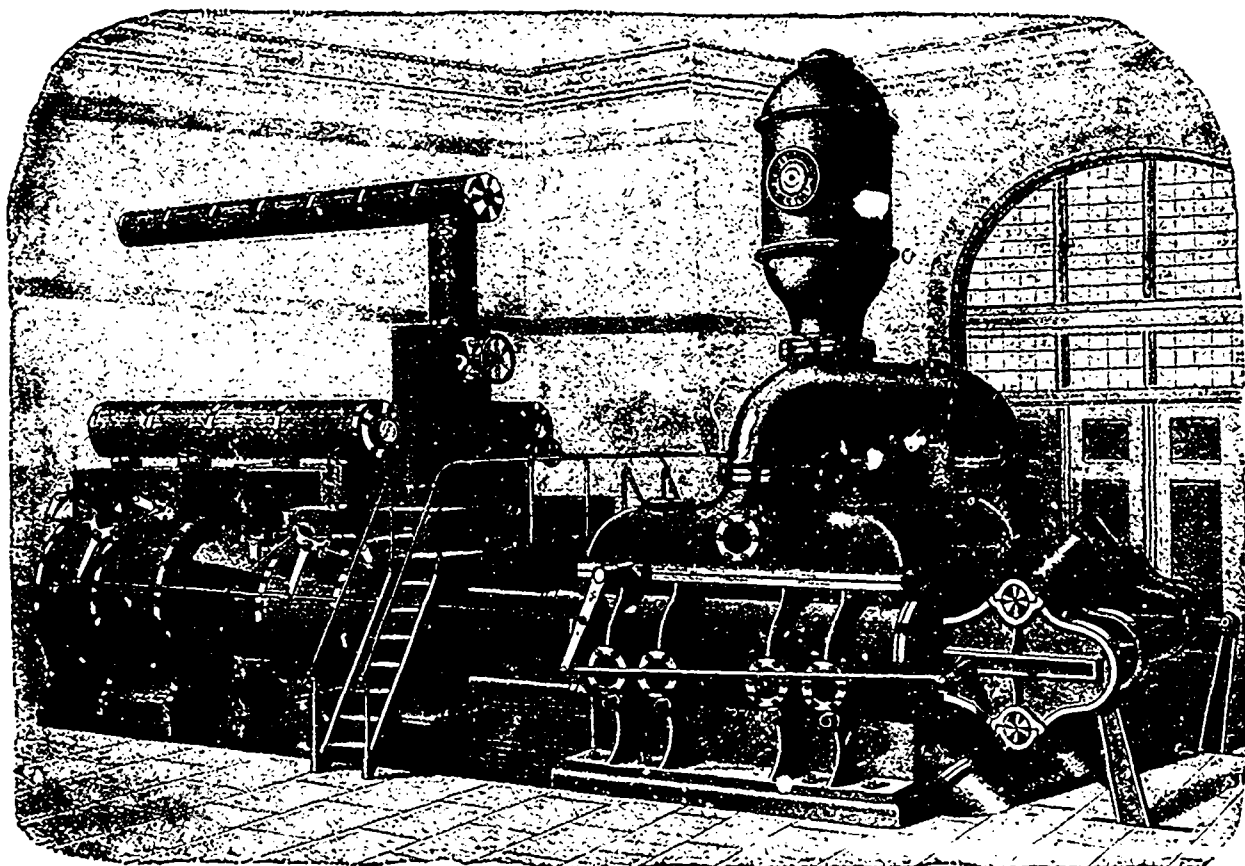
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Prices of Building Materials.

CONDITION OF THE MARKET.

TORONTO: The heavy metal trade is still brisk, and manufacturers of galvanized iron are unable to supply the demand. Iron pipe is also moving freely, all sizes being asked for. An improvement is noted in plumbers' supplies, especially in the city.

MONTREAL: A quieter feeling has prevailed for the past week in general hardware, cement, firebricks and iron pipe. No arrivals of cement are reported, and only two vessels are expected from London, and one from Belgium. The arrivals of firebricks last week were 104,000, as against 156,000 the previous week.

LUMBER.

CAR OR CARGO LOTS.

Toronto. Montreal.

Table listing lumber prices for Toronto and Montreal, including items like clear picks, Am ins., spruce culls, and various shingles.

YARD QUOTATIONS.

Table listing yard quotations for mill cull boards, shipping cull boards, hemlock scantling, and various sizes of planks.

B. M.

Table listing lumber prices under the B. M. section, including dressed and undressed lumber, beaded sheeting, and sawn lath.

BRICK—M

Table listing brick prices for common walling, good facing, sewer, pressed brick, and various types of buff and brown bricks.

Toronto. Montreal.

Table listing prices for roof tiles, hip tiles, ridge tiles, and various types of red and brown bricks.

SAND.

Table listing sand prices per load of 1/4 cubic yards.

STONE.

Table listing prices for common rubble, large flat rubble, foundation blocks, and various types of granite and marble.

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

Table listing prices for Ohio freestone, including buff promiscuous, buff dimension, blue promiscuous, and blue dimension.

SLATE.

Table listing prices for roofing slate, terra cotta tile, and ornamental black slate roofing.

PAINTS. (In oil, @ lb.)

Table listing prices for various types of paint, including white lead, red lead, yellow ochre, and green chrome.

CEMENT, LIME, etc.

Table listing prices for Portland cements, German, London, and Newcastle, as well as Siennan and English artificial cements.

Toronto. Montreal.

Table listing prices for Portland cements, including Belgian, Canadian, Roman, and Parian.

Table listing prices for hydraulic cements, including Thorold, Queenston, Napanec, Hull, and Ontario.

Table listing prices for Keene's Coarse Whites, fire bricks, lime, plaster, and hair plasterers' materials.

HARDWARE.

Table listing prices for cut nails and steel.

CUT NAILS, FINCH AND CUT SPIKES.

Table listing prices for various sizes of cut nails and spikes, including hot cut and cold cut.

FINE BLUED NAILS.

Table listing prices for fine blued nails in 3d and 2d sizes.

CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX NAILS.

Table listing prices for casing and box nails, including 12d to 30d and 8d and 7d.

FINISHING NAILS.

Table listing prices for finishing nails in various sizes, including 3 inch and 2 1/2 inch.

SLATING NAILS.

Table listing prices for slating nails in 5d, 4d, 3d, and 2d sizes.

COMMON BARREL NAILS.

Table listing prices for common barrel nails in 1 inch, 3/4 inch, and 1/2 inch sizes.

CLINCH NAILS.

Table listing prices for clinch nails in 3 inch, 2 1/2 inch, 2 inch, 1 1/2 inch, and 1 inch sizes.

SHARP AND FLAT PRESSED NAILS.

Table listing prices for sharp and flat pressed nails in 3 inch, 2 1/2 inch, 2 inch, 1 1/2 inch, and 1 inch sizes.

STEEL WIRE NAILS.

Table listing prices for steel wire nails, iron pipe, and lead pipe, including discounts for Toronto and Montreal.

Galvanized Iron:

Table listing prices for galvanized iron, including Adam's-Mar's Best and Queen's Head, and Gordon Crown.

Structural Iron:

Table listing prices for structural iron, including steel beams, channels, angles, tees, plates, and sheared steel bridge plate.