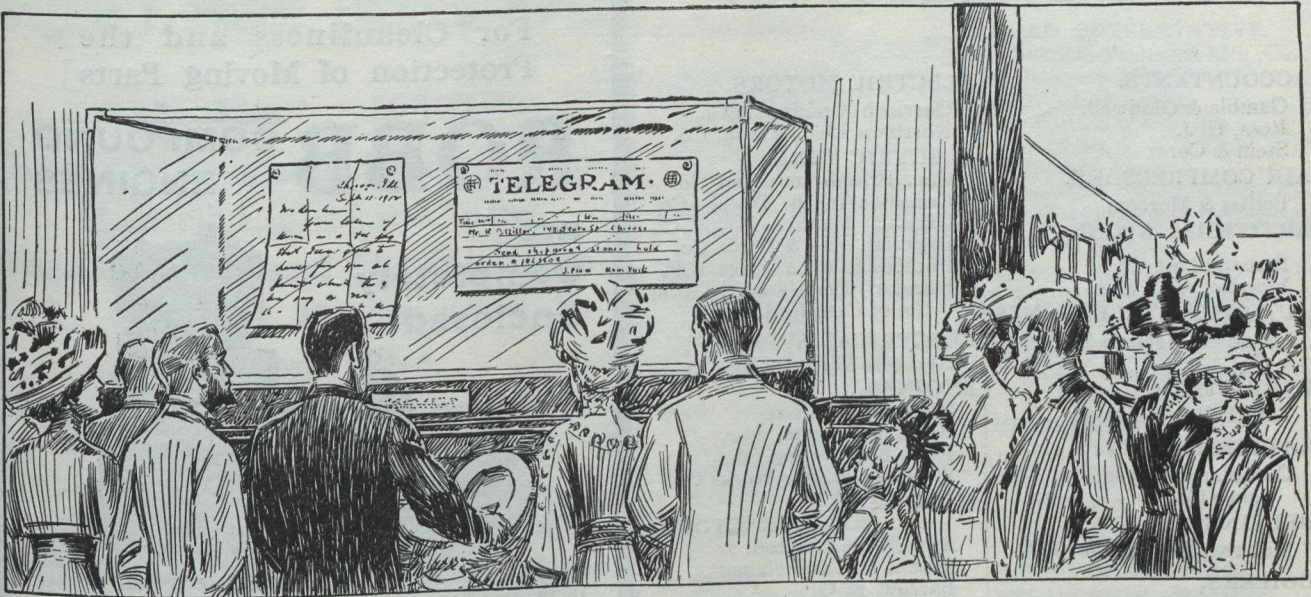


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R. S. Lea and H. S. Ferguson
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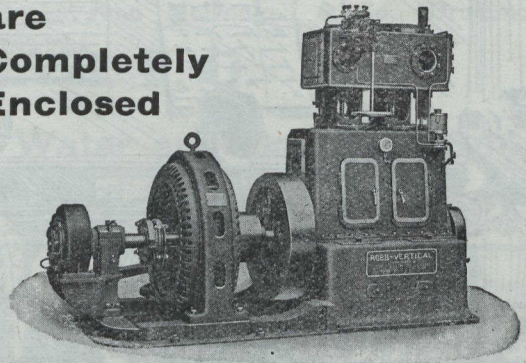
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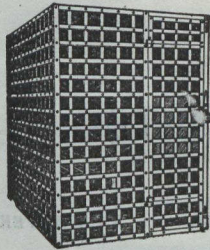
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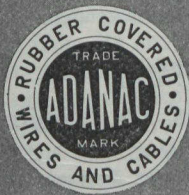


MONTREAL HALIFAX TORONTO WINNIPEG REGINA CALGARY EDMONTON VANCOUVER

ALPHABETICAL INDEX OF ADVERTISERS

	PAGE		PAGE		PAGE
Ambursen Hydraulic Cons. of Can.	66	Dunnington-Grubb & Harries	79	Naugle Pole & Tie Co.	62
American Bank Note Co.	73	Dutcher, Maxwell & Co.	77	Northern Electric & Mfg. Co.	44
Aqueducts. Limited.	75	Fairchild, Jones & Taylor	78	Office Specialty Co.	46
Austen & Chapdelaine	77	Francis Walter J. & Co.	76	Outthet, R. A.	79
Babcock & Wilcox, Limited	46	Frew. J. F.	75		
Bank of Montreal	70	Fuce & Scott	75		
Bank of Ottawa	72	Galt Eng. Co., The John	78	Partridge Dyer Lumber Co.	62
Bayfield & Archibald	74	Gladwell, Wilson & Co.	76	Paterson Manufacturing Co., Limited	68
Beaubien, DeGaspé	75	Higman & Doctor	76	Pedlar People	4
Beillis & Morcom	72	Hayler, Guy Wilfrid	79	Phillips Electrical Works, Eug. F.	Cover Page
Bowman & Connor	15	Imperial Bank of Canada	72	Phillips, Stewart & Lee	43
Bowring & Logan	77	Imperial Wire & Cable Co.	45	Potter, Alexander	78
Brandeis, Charles	75	Isdale, John S.	76		77
Brent, Noxon & Co.	31	Jacobs & Davies	78		
Brit. Insulated & H. Cables Co.	62	Keefer & Keefer	75	Reed, G. W.	65
Burnett, Geoffrey K.	79	Kellogg Switchboard & Supply Co.	41	Robb Engineering Co.	42
Canada Cement Co.	Cover Page	Laurie & Lamb	72 & 74	Robertson Limited, J. M.	77
Canada Iron Corporation	80	Lea, R. S. & H. S. Ferguson	76	Roman Stone Co., Limited	65
Canadian Bank of Commerce	70	Lighthall & Harwood	65	Ross, H. J.	65
Canadian Bridge Co., Ltd.	80	Lonodn Concrete Machinery Co	4	Ross & Co., R. A.	74
Canadian British Insul. and H. Cable Co.	62	Leoped, A.	75	Royal Bank of Canada	70
Canadian Fairbanks-Morse Co.	44	Mace, T. Harry	37	Saint-Cyr, J. B.	74
Canadian Wire & Iron Goods Co.	43	Martin & Co., Jos. R.	78	Sask. Well Drilling Co.	42
Can. Independent Telephone Co., Limited	16	Mather, Yuill & Co.	4	Schlemm, Leonard E.	79
Can. Inspection & Testing Laboratories	76	McLaren Belting Co., J. C.	Cover Page	Syanly, J. M.	75
Carswell Co., The	66	McMeen & Miller	78	Smith, Kerry & Chace	75
Carritte-Paterson Manif. Co.	68	McCulloch, A. L.	74	Standard Underground Cable Co. of Can.	62
Cartwright, Matheson & Co.	76	Merchants Bank of Canada	70	Stein Co., W. T.	62
Chipman & Power	71	Modern Printing Co.	45	Structural Steel Co., Limited	46
City & District Saving Bank	4	Moon & Silverton	75	Surveyer & Frigen	74
Cleveland Br. & Eng. Co.	Cover Page	Morrison & Co., T. A.	65	Todd, Frederick G.	79
Clement, E. E.	78	Murphy & Underwood	77	Topp, Charles H.	74
Cleveland & Cameron	74	Murray, T. Aird	7	Valentine-Clark Co.	62
Dagger, F.	78	Mussens. Limited	Cover Page	Warmington, J. N.	80
Davidson Mfg. Co., Ltd., The	80			Waterous Engine Works Co., Limited	46
Dietrich, W. N.	76			Wood, Gundy & Co.	73
Dominion Bridge Co., Limited	Cover Page			Wright, P. Morton	79
Dominion Securities Corporation	73				
Dominion Sewer Pipe Co., Limited	80				
Dominion Wood Pipe Co.	42				

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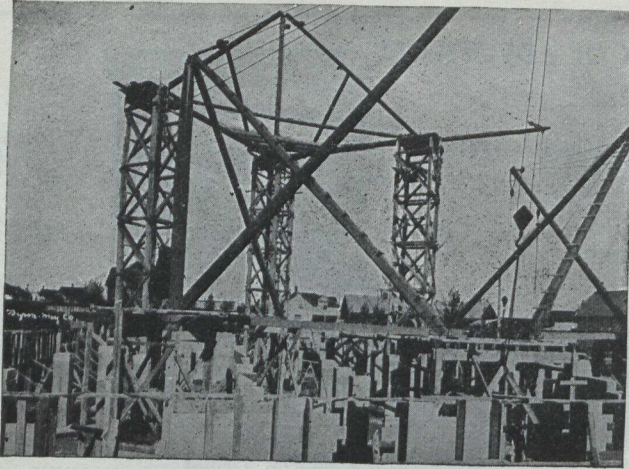


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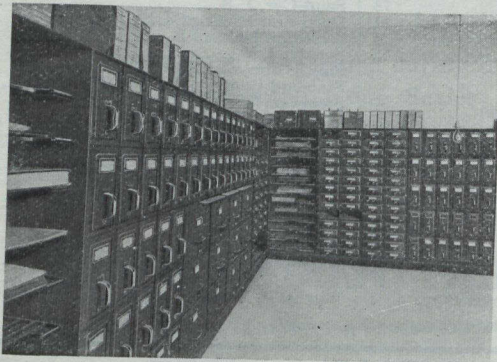
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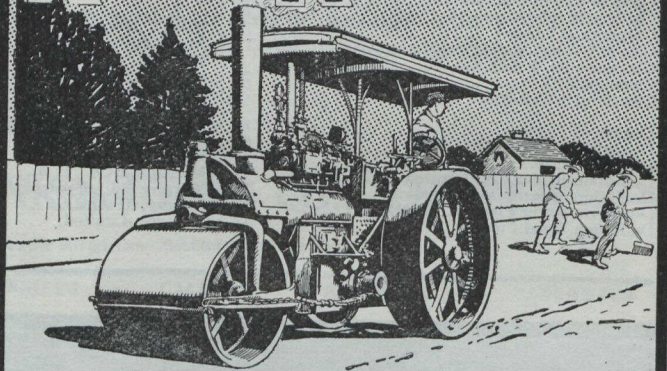
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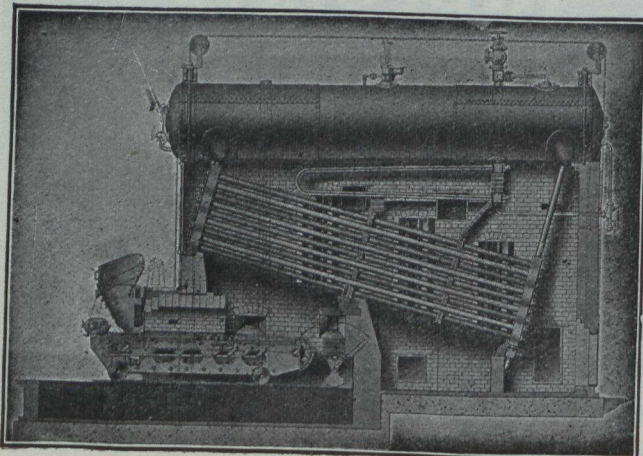
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AND TELEPHONE AND BUILDING NEWS

HARRY BRAGG, EDITOR

SHOULD CANADIAN CITIES ADOPT COMMISSION GOVERNMENT ?

Under this title a Bulletin by Professor William Bennett Munro, Professor of Municipal Government in Harvard University, has been issued by Queen's University, Kingston, Ont.; and we wish that every one of our readers who believes that copying the new system now being adopted in the smaller cities of the United States, is the only course open to Canadian cities, would study it.

We have pointed out several times that because drastic changes are needed in Municipal Government across the line, it did not follow that similar changes were advisable in Canada, where very different conditions exist, and it is very gratifying to find that such an eminent authority as Professor Munro holds the same views as we have expressed in these pages. As a prophet has no honour in his own country, we know that Professor Munro's warnings will carry more weight than the "Journal" could possibly hope to do.

He says when a new device in some department of civic administration seems, even after a very inadequate trial, to be successful, a propaganda for its adoption elsewhere is seen, quite heedless of the warnings to exercise care and patience. As an example he quotes St. John, N. B., "abolishing its old municipal organization, root and branch, substituting commission government," which, he points out, "has only had as much as a ten years trial in one city."

Dr. Munro shows that two things must be remembered in considering the spread of the new idea across the line. The old administration had become so bad that any change must be beneficial; and second, the real test of government is in the political traditions which it develops among the people.

Dr. Munro points out that the English system—divorced from its environment—is poor, and permits of any vice: yet English cities are better managed than any others, not even excepting German ones, "because sound local traditions have been developed." The explanation is "the existence of a civic patriotism which compels the election of broad-gauge councillors." Local public opinion prevents political patronage.

It is pointed out that the separation of the legislative and administrative branches of municipal business in the States is largely responsible for the craze for Commission Government; as well as electing administrative officers, the cumulative ballot (one ballot paper had 835 candidates) and the prevalence of corrupt practises.

It is claimed that the question of the proposed change rests upon the failure of the existing systems. And examination of Canadian conditions shows almost none of the features in the United States.

Dr. Munro points out that certain ideas of taking away its powers from the council, such as by Commissions for Police, Water, &c., have been introduced into Canada; but that this same idea is being discredited in the United States from which they were imported;

and urges that reducing the powers and responsibilities of a Council, leads to inferior members. Committee legislation, he says, has proved efficient in England and a flat failure in the United States, solely because of the quality of the Councillors. "It is not the size of the Council, but the size of the men composing it, that really matters.

"An all-powerful City Council with the details of administration handled solely by its own committees, is Commission Government in a nut shell."

American cities have not enjoyed democratic government, but have suffered the despotism of party bosses by "ramshackle city charters and an iniquitous ballot system."

"If there is anything to be said for the adoption of Commission Government in Canadian cities at the present time, it is only because they have been led, more or less, to repeat the administrative follies of municipalities south of the border."

"The Commission plan is little more than a protest against the policy of separating executive from legislative authority. If Canadian cities will only refrain from the policy, there will be no need for the protest."

From what has been said and quoted, it will be seen that Dr. Munro does not believe that Commission Government is necessary, or even wise, for Canadian cities, and his opinion is valuable as it is based upon a careful study of "The Government of American Cities," which is the title of a book which he has just published, and which is now on our table for review. In this book he goes deeply into the chaotic system prevailing across the line, and makes one thankful to be under our present system in Canada.

With Dr. Munro's answer to the title question, we agree, but we think that there is one factor in Canada which is a fair argument for a Board of Control with a Council instead of the purely English system. And that is that in Canada there is a scarcity of that leisure class which in England is willing to spend time in the public service. This, of course, is inherent in any new country, and it seems better to secure the entire services of say five Controllers, as in Montreal (where the system is a great improvement on that of Toronto) to administer the civic business; and to retain the English model of an elected Council who give only a small part of their time.

Dr. Munro's claim that it is the men, and not the machinery, who are essential, cannot be insisted on too strongly. A City Council represents the citizens—both those who vote and those who shirk their duty at the polls, and the quality of the men elected, whether as Councillors, Commissioners or Aldermen, represents the citizens who elect them.

We hope that every city in Canada will carefully consider the whole situation, before simply copying a new idea. Dr. Munro's views are worthy of great consideration.

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MONTREAL, FEBRUARY, 1913.

CONTENTS

	PAGE
SHOULD CANADIAN CITIES ADOPT COMMISSION GOVERNMENT.....	47
TAXATION.....	52
Hon. R. M. MacGregor, Halifax, N.S.	
GARBAGE INCINERATOR, MOOSE JAW, Sask.....	54
RE-INFORCED CONCRETE.....	76
Gordon H. Sissons, C.E., Montreal.	
UNION OF CANADIAN MUNICIPALITIES.....	57
Executive Meeting.	
THE LATE W. J. SPROULE, C.E.....	74
GUILD HALL, LONDON, Eng.....	57
Illustrated.	
CONVENTION, UNION OF N.S. MUNICIPALITIES	52
Official Report.	
FUNDAMENTAL PROBLEMS OF TOWN PLANNING	78
B. Antrim Haldeman, Asst. Eng., Philadelphia, Pa.	
Civic Notes.....	65
Editorials.....	47
Engineering News.....	74
Equipment and Engineering.....	60
Financial Notes.....	73
Financial Echoes.....	71
Telephone News.....	61

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13th ANNUAL CONVENTION

OF THE

UNION OF CANADIAN MUNICIPALITIES

SASKATOON, Sask.

JULY, 1913

Chicago Drainage Canal

It is very satisfactory to see that the application to increase the volume of water stolen from Lake Michigan for the alleged purpose of carrying off the drainage of Chicago, has been refused.

It was distinctly proved that navigation in both United States and Canadian ports would suffer if the proposal were permitted and that vessels would be unable to enter the harbours with the draft that obtains to-day after the earlier stealing. In the Harbour of Montreal it was proved that it would lower the water as much as twelve inches.

It was fortunate that the cloven foot appeared in the idea of using this diverted water for creating power. And the selfishness of the project in creating power at the expense of the shipping interests in the Great Lakes and the St. Lawrence River was too pronounced to be allowed. The next step should be to see that no more than the quantity of water permitted by the old regulation is stolen from Lake Michigan.

As we pointed out in April, though the U. S. Secretary of War only gave permission for the diversion of 4,167 cubic feet per second, yet the Sanitary Board is actually taking 7,000 cubic feet per second, or nearly three quarters of the mean quantity passing over the American fall at Niagara.

The Canadian Government, and those who have successfully supported it in preventing a further legal diversion, should follow up their victory by compelling the Sanitary Board to restrict its diversion of water to the amount legally permitted.

A very important matter is to see that the Sanitary Board **ceases the construction of works now in progress**, for the production of power, which can only be operated by further stealing of water. For although permission has been refused, the Sanitary Board will probably feel that they do not want to stop plans now partially completed. Indeed, it is quite possible that the Board might go on with its plans, and divert as much water as is needed to operate the new power plant, leaving it to the Federal United States Government to make them undo this later.

The Municipal Union and the Government in Nova Scotia

Some two years ago we called attention to the way in which the Provincial Government of Nova Scotia ignored the Provincial Union of Municipalities, as appeared from a paper by Mr. Arthur Roberts, the Secretary.

We are pleased to note that an entire change of heart has taken place, and that the Government not only discusses Municipal Legislation with the Executive Committee of the Union and has adopted some of the changes proposed by it, but that a member of the Government, for the first time, was present at the Convention in Antigonish and gave an address there.

We congratulate Premier Murray and his confreres upon the change in attitude towards a body which is working, without pay, for the best interests of the citizens. As we pointed out before, any Government which is earnestly bent upon improving conditions for the people, will welcome the assistance of men elected to safeguard the interests of the same public in the various municipalities.

If the action of the Journal previously had any bearing upon promoting this pleasant change, we are delighted to have been of service in the matter.

“Public Service” or “Private Interests”

The differences resulting from varied points of view are seen in the accounts of two incidents recorded in two different papers.

One of the papers is “Public Service”, whose mission in life is to show up the monstrous failures of Municipal ownership. Each issue contains a list of places “where Municipal Ownership has failed,” and it advertises a booklet showing 200 awful examples of this terrible bogey. Letterly, it has been trying to point out how private corporations should treat the public so as to secure that friendly feeling which every private business concern wishes to secure from its customers, and in the last issue it offers to provide the “Right kind of educational publicity.”

The other paper is the “Twentieth Century Magazine” whose objects are the good of the people in every way; the articles in which are always directed towards the betterment of humanity.

It is somewhat indicative of the business value of the two in the eyes of the public to note that while “Public Service” (which really stands for “private interests”) carries over 20 pages of first class advertisements, the “Twentieth Century Magazine” carries less than two small pages, and has had difficulty in keeping alive. It is very evident that when “Public Service” stands for corporate interests as against the public, it can secure the support of those who are interested and who have the money to back their ideas, to exploit the public for the benefit of private corporations.

In the January issue of “Public Service” and in the December “Twentieth Century Magazine” are accounts of “Pasadena’s Lighting Plant” and the attempt of Portland, Me. to buy out the Gas Company.

The variation in the accounts is very startling, and one account is certainly incorrect.

“Public Service” says “Publicity against Municipal Ownership scored another victory when Portland, Me. voted down the proposals to buy the Gas Plant” (incidentally, it omits any reference to the majority of 4 418 in favour of a municipal coal yard at the same election—why?) The “newspapers assumed a neutral attitude.”

The “Twentieth Century Magazine” says the “Gas questions were lost by small majorities. . . The vote is encouraging, and will probably be re-submitted at another election” It gives the majorities against the two gas by-laws as only 432 and 407. Its account of the attitude of the newspapers contradicts that of “Public Service”; it speaks of one paper as “thundering against the propositions”, and this version is confirmed by the statement in “Public Service” that the Gas Company ran a series of advertisements, showing the “true (?) conditions” — Can anyone believe that the newspapers, carrying a “series of advertisement” of the company, remained neutral, as “Public Service” would have its readers understand?

The same two issues of the two papers also contain accounts of Pasadena’s Lighting Plant. The facts of the case, as published in the “Twentieth Century Magazine” are taken from a sketch by Mr. William Carr in the “California Outlook”. The City secured a municipal plant because of “dissatisfaction over the rates, service and treatment received by the public”, from the Edison Electric Company, (now the Southern California Edison Co.), which had then a monopoly. The city to-day serves about half its citizens and they are willing to pay higher rates than the Company now

offers; for the Company, by exorbitant charges in other places, can afford to cut rates in Pasadena, in order to fight the municipal plant, as seen by its schedule, as follows:—

Pasadena, 4 rents per K. W. H., every other place; 6½ cents to 10 cents, so that several places are being charged 2½ times as much as Pasadena. As Mr. Carr says, it is obvious that the Company is operating at a loss in Pasadena, or that other cities are paying exorbitant rates.

“Public Service”, of course, shows the “failure” of the municipal system, and produces quite a lot of figures to prove its assertions. If these figures are as reliable as its statements in the Portland case, they are worth less than nothing.

This Journal does not advocate Municipal Ownership; but it does protest against the attacks upon it which are based upon statements that are not correct.

“Public Service” should cease to masquerade under a title which does not represent it at all. Let it come out openly under the title of “Private Interests”, and it will have a fair position, with a great deal of argument to back the contentions.

Montreal Tramways

The citizens of Montreal who are compelled to use the street cars without deriving any benefits from the profits on stock—watered or otherwise—are rebelling, and the Montreal “Herald” has attacked the personnel of the Tramways Company in such a way as to attract a few heavy libel suits.

Undoubtedly the growth of Montreal has resulted in congestion at certain times of the day and plans for diagonal streets as suggested by the Architect’s Association are becoming more pressing. The old grid-iron style of city planning is utterly unsuited to a large, modern city.

But the long suffering passengers wonder whether this is not seized upon as an excuse by the Company for delaying what it could do to make the situation less irritating. And the presence of such a large amount of water among the legitimate shares is, naturally, a cause of annoyance. For the management of the Company has not only to earn dividends on the money actually invested, but also upon the fictitious shares.

In our issue of December, 1911, we pointed out the inadvisability of the Public Utilities’ Commission permitting the Merger with \$27,000,000 added as the value of the franchises; and further that this watered stock would be turned over to innocent investors by those who put the deal through.

Now the Tramways Company is defying the Public Utilities’ Commission, and questioning its powers.

The Montreal Tramways Company, like the Toronto Street Railway Company and similar monopolistic private Corporations are doing a great deal to drive the people into Municipal Ownership. This is being advocated by some of the Montreal Aldermen. And if this occurs, there may be a shrinkage in the valuation of the Company’s assets such as has just occurred in the National Telephone Company in England.

Another direction in which the Tramways Company is driving the public is towards having a Public Utilities’ Commission with sufficient power not only to control the equipment service, but also able to fix the charges so as to give proper interest on the actual cash invested and on nothing else.

Municipal Control of Streets

In connection with the general revision of the Railway Act, to be introduced by the Minister of Railways clauses will be inserted meeting the request of the Union of Canadian Municipalities for amendments of existing legislation so as to make it clear that the Railway Commission has jurisdiction over all Federally incorporated power, transmission, and telegraph and telephone companies, and also securing to municipalities, the right of control over their own streets.

Hon. Frank Cochrane intimated this evening to a deputation consisting of Controllers Church and McCarthy of Toronto, and Mr. W. D. Lighthall, Montreal, representing the Union of Canadian Municipalities, that the new railway act would keep in view the request of the Union as above indicated. The deputation was asked to submit in writing data and arguments bearing on the question.

Decided success has attended the efforts of the Union of Canadian Municipalities to secure municipal control of streets. Interviewed this morning Controller Church stated that the Hon. Mr. Cochrane when waited upon by representatives of the Union at Ottawa yesterday, had consented to amend the Railway Act to incorporate a "consent clause," subject to the decision of the Dominion Railway Board in case of a disagreement between the municipality and company interested.

The announcement is of particular interest to Toronto in view of the contest between the city and the Niagara Development Company over the location of poles in North Toronto.— *Toronto News.*

Building Operations at Welland, Ont.

	1912.	1911.
Number of permits issued		
dwellings	148	41
Value	\$201,678.00	\$128,940.00
Permits for Business		
buildings	26	9
Value	\$201,678.00	\$128,930.00
Total Number of Permits	178	51
Total Value	469,744.00	342,808.00

The issuing profits was not begun until July, 1911, no record was kept in 1910. 11 Business, 3 Public and 30 Dwellings erected during first half of year are included in above. The increase is 37 per cent.

Varying Valuations

That irregularity exists in what is supposed to be a uniform system of valuation in the Province of Ontario is shown in a table of rural municipalities which appears in the Toronto "Globe":

	Land	Improvements
Artemesia	60 p.c.	33 1-3 p.c.
Burbrook	75	25
Brownley	66 2/3	50
Cairstor	30 p.c.	33 1/3
Draper	66 2/3	50
Emily	80	66 2/3
Garapaxa	66 2/3	33 1/3
Hervey	70	25
Hinchinbroke	33 1/3	12 1/2
Hungerford	100	30
Keppel	50	15
Longueuil	58	33 1/3
Macauley	62 1/2	45
Margillivray	80	35
Metcalfe	95	60
Raleigh	80	30

Contradictory Results

In Toronto a clergyman who caused to be printed a report of what was said by the performers at a local theatre was formally condemned for circulating indecent literature. The manager of the theatre, prosecuted for presenting the entertainment which had been recorded, was acquitted by the jury, but warned to be careful in the future. The law occasionally, even when good men are doing their best with it, does bring about contradictory results. — *Montreal Gazette.*

[New York Harbour

The Board of Estimate of the City of New York has decided to make the municipal harbour one of the largest and finest in the world. The cost of expropriating the necessary property and building new docks and an electric railway is estimated at \$150,000,000.

	Watermains			Sewers			Sidewalks			Pavements		
	Constructed	Previously constructed	Total	Constructed	Previously constructed	Total	Constructed	Previously constructed	Total	Constructed	Previously constructed	Total
Winnipeg, Man	11.25	228.75	240.	11.5	201.	212.5	18.	263.	281.	14.	148.	162.
Portage la Prairie, Man. . . . .	.50	26.5	27.	.5	23.5	24.	1.	34.	35.	...	....	....
Brandon, Man.	2.	26.	28.	3.	20.	23.	6.	43.	49.	2.3	....	2.3
Regina, Sask.	5.	26.	31.	7.	25.	32.5	8.	12.	20.	7.5	12.5	20.
Saskatoon, Sask.	10.50	23.65	34.15	10.5	22.44	32.94	21.	21.	42.	3.5	....	3.5
Prince Albert, Sask.	4.50	15.5	20.	4.	13.5	17.5	3.	12.	15.	...	....	....
Edmonton, Alta.	17.	75.	92.	13.40	70.6	83.	23.5	96.5	120.	18.	6.2	80.
Calgary, Alta.	40.	107.	147.	50.	101.	151.	20.	75.	95.	22.	60.	82.
Lethbridge, Alta.	3.20	33.1	36.30	7.3	21.	28.3	6.8	14.	20.8	...	....	....
Medicine, Hat.	4.	16.	20.	7.38	9.16	16.54	.5	7.	75.	...	....	....
Moose Jaw, Sask.	15.50	27.5	43.	15.	18.	33.	6.5	16.75	23.5	1.	3.5	4.5
	113.45	605.00	718.44	524.70	524.70	654.78	114.3	594.25	708.8	68.3	286.	354.3

Union of Canadian Municipalities Annual Executive Meeting

The annual executive meeting of the Union of Canadian Municipalities was held in the City Hall, Ottawa, Friday, January 31st.

At the meeting were:—Ald. L. A. Lapointe, M.P., and Ald. M. Martin, M.P., representing Montreal, Que.; Ex Mayor Geary, City Solicitor, representing Toronto, Ont.; W. D. Lighthall, K.C., Hon. Secretary of the Union; F. H. Shepherd, M.P., representing Nanaimo, B.C.; H. H. Stevens, M.P., representing Vancouver, B.C.; J. D. Taylor, M.P., representing New Westminster, B.C.; Mayor Ellis, M.L.A., and Ex-Mayor Cook, Past President, representing Ottawa, Ont.; Ald. G. A. Robinson, representing Outremont, Que.; and G. S. Wilson, Assistant Secretary of the Union. Past President, C. Hopewell, representing the cities of Victoria, B.C.; Prince Albert, Moose Jaw, Saskatoon, Sask.; St. Boniface, Brandon, Man., London, Galt, Ont.; Three Rivers, Sherbrooke, Quebec, Que.; St. John, N.B.; Halifax, N.S.; Charlottetown, P.E.I.

The Hon. Secretary, Mr. W. D. Lighthall, reported progress in the matter of Uniform Municipal Statistics to date, referring to the Report of the Department of Statistics of the Dominion Government, endorsing the plan of the Union of Canadian Municipalities, and recommending its carrying into effect.

Moved by Ald. L. A. Lapointe, M.P., of Montreal, Que., and seconded by H. H. Stevens, M.P., of Vancouver, B.C., and resolved unanimously:

"In regard to the recommendation of the Departmental Commission on the Official Statistics of Canada, that the issue of municipal statistics on uniform and comparable lines be discussed in conference between the Dominion and Provincial Governments,—

"That the Executive Committee of the Union of Canadian Municipalities assembled at Ottawa on January 31st, 1913, heartily approves of the said recommendation, and would urge that in the event of a conference being arranged that a delegation of this Union be invited to be present: and in such case, the President and Honorary Secretary are appointed to attend and participate."

Ex-Mayor Geary (representing Mayor Hocken, and the City of Toronto) reported that he has just had a long consultation with Mr. Samuel Price, K.C., re drafting amendments to the Railway Act, and had argued out and arranged with him for the Union of Canadian Municipalities to act.

After discussion it was moved by H. H. Stevens, M.P., representing Vancouver, B.C., and seconded by Ex-Mayor Cook, of Ottawa; and resolved unanimously:

"That all suggestions regarding the revision of the Railway Act be referred to the Executive Committee of the Union of Canadian Municipalities, with authority to call to their aid such members of Parliament or others as may be found necessary."

With respect to International Ferries, in which the Town of Sarnia, Ont., reported a persistent case of evasion of proper accommodations and control by a company, it was resolved:

"That the Town of Sarnia, Ont., be asked to secure the concurrence and aid of Port Huron, U.S.A., with a view to obtaining proper legislation from both countries, and that a public, general Bill in the Canadian Parliament be supported by the Union of Canadian Municipalities."

After discussion it was resolved unanimously:

"That the date of meeting of the Annual Convention of the Union, to be held in the City of Saskatoon, Sask., be as near the middle of July as feasible, and that arrangements be made for visits to places on the way."

After discussion, it was resolved unanimously:

"That the question of Railway Whistles and Bells be referred to the Executive Committee of the Union."

After discussion it was resolved unanimously:

"Referring to the resolution of the last Annual Convention as follows:

"Resolved that in the opinion of this Union of Canadian Municipalities the Dominion and Provincial Governments should contribute towards the municipal expenses of cities, towns and municipalities wherein are located government property used for the general advantage of Canada or the Province (as the case may be), other than Custom House and Post Office Buildings, such grant to be in lieu of taxation,

"That a deputation be arranged to confer with the various Governments respecting the matter."

Exemptions from taxes:

The Hon. Secretary was requested to arrange for a full discussion of this question, at the next Convention.

Under representation and Over Taxation.

Referred to next Convention, and that the Hon. Secretary be requested to arrange for a paper.

Censoring Moving Pictures

The question of censoring moving picture films was fully brought before the Union of Canadian Municipalities at the Windsor Convention, as reported in our October number, by the paper read by Mr. Walters, Secretary of the Detroit Police Department, and everyone was interested in the statement of Hon. J. O. Rheame that all films used in Ontario were passed on by a Board of Censors, and could only be exhibited with the official notice of approval forming part of the film.

According to the Montreal "Star", some of the moving picture exchanges clip off the official permit and attach it to films which the censors would never pass.

This offence is punishable in Ontario, but is, of course, not illegal in Quebec.

This had naturally led to a movement in favour of having a Board of Censors for the Province, which everyone who knows the enormous patronage of moving pictures and the influence they exert, particularly on immature minds, has endorsed, the Parks and Playgrounds Association taking the lead, and which has been agreed by the Legislature.

A part, however, of this question is the national or imperial one.

A very large number of the films, which have nothing to do with history, are full of "flag-waving", the flag being the Stars and Stripes. And there is a growing disposition towards eliminating the flag where it is utterly unnecessary and entirely out of place.

Why should Canadian audiences be compelled to look at pictures in which the Stars and Stripes figure prominently, but without any reference to the plot?

Surely the British film manufacturers could be made acquainted with the valuable business to be found in Canada, and the desire of Canadian audiences to see pictures depicting British History rather than those of another nation.

Union of Nova Scotia Municipalities

President, Mayor A. D. GUNN, Sydney

Sec. Treas., ARTHUR ROBERTS, Town Solicitor, Bridgeport

Seventh Annual Convention

Official Report

(Concluded)

The President, in calling on the next speaker, expressed the pleasure of the Convention at having with them a member of the Provincial Government, Hon. R. M. McGregor, who read a paper on

The Official Assessment Act



HON. R. N. MACGREGOR, M.L.A.,

Member of the Executive Council of Nova Scotia

My purpose in appearing here to-day is simply to open a discussion on the general question of Municipal Assessment, and I can hardly do so better than by referring to "The Optional Assessment Act" introduced by me in the Legislature at its last session. While I cannot hope to add anything to the sum total of your knowledge on the general subject of assessment, I would be well rewarded if I stimulate some interest in this question, which is a very live one, and one that is, in some form or other, always before the Legislature.

This Union of Municipalities has already expressed general dissatisfaction with our present form of Assessment, and through its Executive Committee, has approached the Local Government, asking for the appointment of a Commission to study and report on improved methods of Municipal Assessment. That request is still before the Government, and some of us, at least, hope before long that definite action will be taken upon it.

I need not argue as to the inequalities in the present system, or as to the dissatisfaction arising from it. It may be that in the rural districts, and in such of our towns where the population is practically stationary, present conditions might be tolerated without much hardship; but in growing communities, and especially

in our larger towns and cities, the inequalities of the present system are becoming more glaring every day.

Those of us who have to do with the Legislature remark every year on the increasing number of special Acts that come before us, sent up by the various municipalities, seeking to exempt from taxation in whole, or in part, certain industries that seem to those municipalities as desirable to foster and encourage. Last session, in particular, witnessed such a deluge of these special exemptions that the Legislature was moved to pass a general Act, which will make it well nigh impossible in the future for any exemptions, or any bonuses, to be granted, except with the expressed concurrence of the large majority of the voters of the municipality.

The trend of modern legislation in all progressive countries of the world has been more or less what we would have called a generation ago "socialistic." This is specially seen in the tendency of the community to assert its right to a share in the profits arising from values created, not by the individual, but by the community.

The taxation of public franchises, which has become so common, represents one side of this movement. The Lloyd George legislation in England two years ago, represents another side of it.

Australia, New Zealand, Great Britain and Germany have all been moving in recent years in the direction of asserting the principle that land is in a different category from any other kind of assessable property. This, in a more or less modified form, is the old Single Tax doctrine asserted by Henry George more than thirty years ago.

Now for the "Optional Assessment Act," I do not claim the slightest originality. It follows generally along lines of similar legislation that is now in force in British Columbia, Alberta and Saskatchewan, and which, although not in force in Ontario, has been before the Legislature of that great Province annually during the last few years, and has been adopted in total as part of the platform of the party now in opposition.

Without going into details, this Act proposed to differentiate between land in its unimproved state on the one hand, and improvements or personal property on the other hand. It provided that any municipal council might, on its own initiative, or, on receipt of a petition signed by a certain percentage of the property holders, must submit to the electors for their consideration a scheme for differentiating an assessment between land and improvements and personalty. It further provided the necessary manner for taking this vote, as well as certain safe guards in the operation of the Act. For instance, in order that the movement should not be too radical, it provided that the percentage at which improvements or personalty should be fixed for rating should not be less than a certain percentage of the value of the land, and that the reductions should be gradual. It further provided that the Act should not go into force unless the affirmative vote included a certain proportion of those who were entitled to vote at the election. After all, it was not a very radical measure, though, undoubtedly, it meant the entering of the thin edge of the wedge, which if the Act carried out all that its supporters claimed for it, would eventually result in the absolute wiping out of all assessments of improvements and personalty, leaving municipal revenue to be derived solely from the land values.

In the various Western Provinces, this result is arrived at in different ways. In some cases, both land and improvements are assessed at their full value, but

a different rate is struck upon them. In others, the land only is assessed at its full value, and the improvements at a lower valuation. In both cases, the result is the same, but the former seem to be the better way, and was the method followed in my Bill.

The Bill went to its second reading and was referred to the Committee on Law Amendments. That Committee discussed the Measure at some considerable length. In view of the fact that the Union of Nova Scotia Municipalities was pressing for a Government Commission on assessment, and in view of the further fact that few, if any, of the municipalities of the province had expressed themselves regarding this measure, the Committee reported the three months' hoist, with a recommendation, however, that a Committee of the House be appointed to bring the matter before the various municipalities during the Parliamentary Recess, and secure all information possible before the next session of the Legislature.

As to the merits of the proposal, its advocates point to Vancouver and Edmonton as the two most conspicuous object lessons in this respect. Vancouver to-day, under similar progressive legislation, practically raises all its municipal revenue by the land taxes. The same is true of Edmonton, with the exception of a business tax that is still maintained; and, to a somewhat similar degree, of Regina. New municipalities in Alberta go at once under the workings of this law, while the municipalities already established are given a few years grace in which to gradually wipe out taxes on improvements. In rural municipalities in Saskatchewan, improvements are taxed at a lower percentage than land values.

I referred a few moments ago to Ontario, where, although a similar measure has not yet passed into law, it has already had the endorsement of more than one hundred municipalities and the support of a large number of influential newspapers.

My own Measure was endorsed by the town council of Springhill and by the United Mine Workers' Organization of that town.

I might say in passing that a similar commission sent from the city of Seattle to Vancouver last year reported in favor of the Vancouver system, although I believe by the plebiscite since taken in Seattle, it failed to secure the necessary support.

The advocates of the new method of taxation claim that the present system puts a tax upon industry and thrift, that it discourages improvements, tends to the erection of a poor class of buildings, and ultimately leads to the raising of rents. It is pointed out that thus far, at least, no community that has adopted the land tax has reverted to the antiquated system, and that the result of its adoption has always been to stimulate building operations.

As in the case of all reforms, fierce opposition is aroused in many quarters. There is, of course, the selfish opposition of the land speculator; but apart from this, it is only fair to say that the scheme is regarded as revolutionary in many quarters and is opposed by many honest people. Of these, Sir James Whitney, the present Premier of Ontario, may be cited as a fair example of an honest man who opposes the measure with all his great influence, on the ground that it will enable people to escape taxation who are to-day contributing to it and who are well able to bear a share of

the municipal load. Objection is made also on the ground that by making the measure optional, we would have a sort of "checker-board" system, with the new method of assessment in vogue in one municipality and the old method in another. The answer to this last objection is two-fold:—first, the advocates of the measure say they would much prefer a general adoption of their scheme, but failing such, they are willing to have it adopted partially or in certain localities, with the conviction that "a little leaven will soon leaven the whole lump." Furthermore, they say there is an endless variety in the working out of the present assessment law. For instance, it is notorious that while one community may assess to-day up to the full value, other communities assess at two-thirds, one half, and even in some cases, one third of the actual value. More than this, in our Province, we have the specific case of the Income Tax, which is in vogue throughout the Province generally, but not in the city of Halifax.

Now as to Sir James Whitney's objection, which after all is the objection "of the man on the street:"—the convinced Single Taxer will answer it by saying that if the unimproved land value is taxed, ultimately no one will escape, but that in some form or other, every man who lives on the land, as we all do, will, if not directly by payment to the tax collector, at least indirectly by the payment of rent to the landlord or board to the landlady, or in the purchase of his goods, or in the thousand and other ways of our complicated life, pay his share of the tax. But more than that, the Single Taxer will ask why a man should pay taxes simply because of the measure of his ability to pay. If his wealth is created by his own industry, surely the community has no right, for Municipal purposes at least, to take a share of it.

I admit that a tax graduated according to ability to pay might be, and probably is, for national or state purposes, a perfectly justifiable tax. But is there any principle in asking one man to pay Municipal taxes because his industry has earned for him certain advantages, and permitting another man to escape taxation whose land is increasing in value because of the industry of his neighbours?

With these few remarks, I shall leave the matter for your discussion. We claim at least that the scheme thus roughly outlined affords a principle in taxation, that it encourages thrift, that it removes many inequalities, that it operates to the detriment of no deserving individual, and that it makes for the betterment of the whole community.

Mr. Dennison, Digby, in proposing a vote of thanks said that in many cases the present assessment was a farce, and gave some instances: a farm assessed at \$800 for which \$7,000 had been refused; a house and lot assessed at \$200, the Insurance Company paying \$1,500 for the house when it was burned down; a man who owns several fine farms, worth about \$100,000, assessed at \$1,200.

Mayor Kinley, Lunenburg, pointed out the necessity of having good practical men as assessors.

Secretary Roberts, in moving that the question be referred to the Committee on Resolutions, congratulated Mr. MacGregor, upon his method of dealing with this modern question, and also upon his realization of the position occupied by this Union. "We have often," said Mr. Roberts, "visited members of our Provincial Government, but they have never returned our visits."

The New Garbage Incinerator At the City of Moose Jaw, Sask.

(Specially written for the Journal)

To cope with the problem of disposing of the City's refuse the Commissioners and Council of the City of Moose Jaw, Sask., passed a by-law to provide for the installation of some form of Incinerator that would destroy the refuse in the most rapid and efficient manner. After giving close attention to and receiving expert advice on the various types of plants offered, a Heenan and Froude high temperature type furnace was chosen.

The City provided the site, which is within two miles of the centre of the City, and directly alongside the Sewage Disposal Works.

One of the cuts show a general view of the completed Plant.

The building housing the plant is of solid brick of buff color, built around a steel frame work, with trussed roof covered with corrugated steel sheeting. There is an inclined roadway built as

an approach to the charging platform level, up which the garbage waggons are driven.

A self-contained radial brick chimney stack 4'6" x 120' was erected close to the building to carry off the waste gases from the furnaces. This chimney was erected by the Canadian Kellogg Co., of Montreal.

The only mill work inside the building is the charging platform, a view of which is shown, with a garbage waggon in the act of dumping refuse over the tipping beam door sill, on to the charging platform. This platform is constructed of concrete supported on steel beams at a level of 19 feet from the floor of the destructor room. As the charging platform floor is installed 6 feet below the door sill (or tipping beam), over which refuse is dumped on to the floor from the approach to the roadway, and as containers are located some distance in front of this dumping point, there is ample room for storage of temporary excess collections.

A neat steel stairway is installed to communicate from the ground to the charging floor level.

The floor of the destructor room is of concrete, so installed that proper floor drainage is secured.

The Incinerator proper comprises: — A three cell plant erected in one independent unit, containing one set of three special well grates having an aggregate capacity of 25 tons in 12 hours or 50 tons in 24 hours.

The plant is of the top feed container type, which provides for the instantaneous charging of the destructor without opening to the atmosphere, thus maintaining the heat in the furnace during the charging operation.

The containers are of steel, firmly fastened in the concrete of the charging floor at the top and resting on water sealed sliding doors at the bottom. These sliding doors are properly weighted in a simple manner, and operated by means of pulleys and wire ropes hung at a convenient height for a man to manipulate from the destructor floor level.



The New Incinerator at Moose Jaw, Sask.

The grates are dish or well shaped, the effective area extending to within a few inches of the side castings, which also serve as dead plates and facilitate the removal of the clinker. The destructor is thus of the continuous chamber type, each grate being of mutual assistance to the other. The bars are of the channel type, and are perforated to permit of the free passage of air supply.

Each cell front is fitted with a separate cast-iron mouth ring to form the opening for clinkering, and to each of these rings a cast-iron sliding firebrick lined clinkering door is hung. This door is suspended and operated by means of wire ropes and pulleys and balanced for easy manipulation.

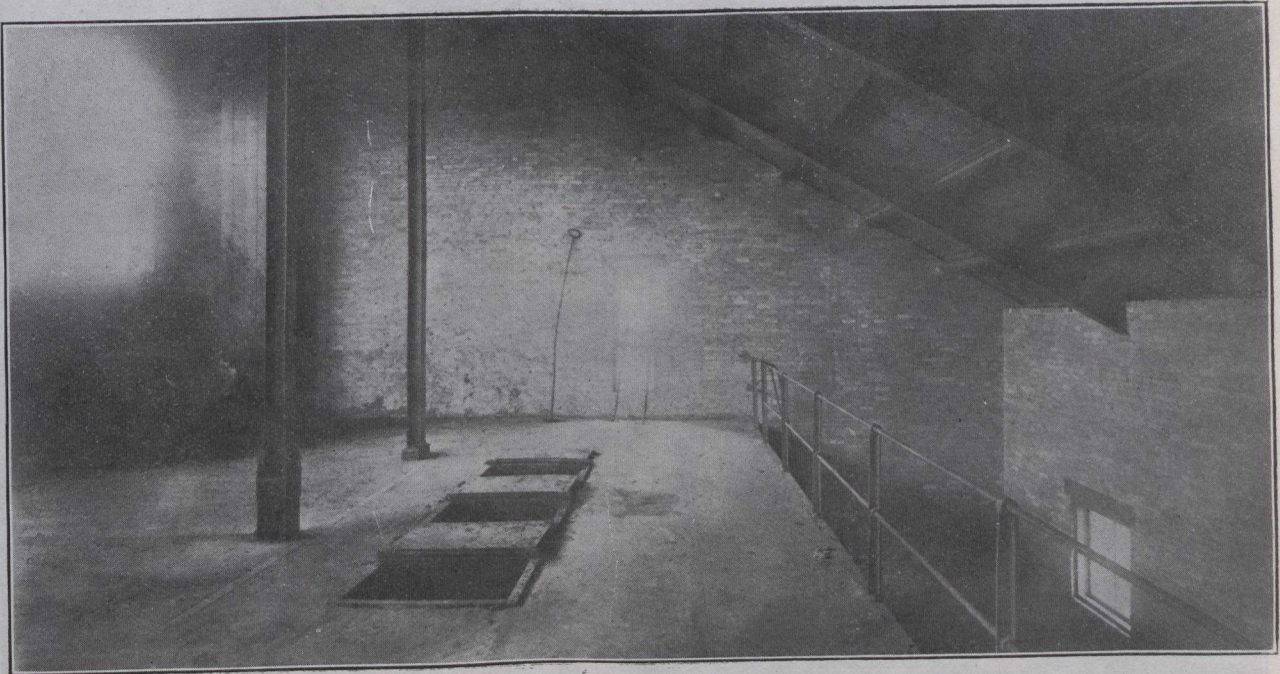
Ash pit openings are also formed in the fronts immediately under the clinkering doors. These are fitted with lift-out doors, of cast-iron.

bustion is drawn, thereby ensuring complete ventilation of the building.

The discharge of fan is connected to a reheater which is installed at the rear of the boiler and, is set on cast-iron bearers specially designed and fixed so that the reheater is free to expand and contract without affecting the brickwork. The heater is constructed of steel plates and steel boiler tubes, and is arranged so that the air travels the full length of the heater outside the tubes and the flue gases pass through the tubes.

Proper clean-out doors of heavy cast-iron are installed at all points where soot is liable to collect in both boiler and heater.

The setting for the destructor proper is built in buff brick properly stayed and anchored on a solid concrete foundation installed to a depth sufficient to warrant that it will not settle, causing brickwork to crack.



Charging Platform.

Adjoining, and communicating with the cells is constructed a combustion chamber of ample size to permit of the cremation of the carcasses of dead horses, etc. A good view is shown of the cells and combustion chamber fronts. Note the chains and sprocket for operating container sliding doors.

A boiler of the Babcock and Wilcox water tube type with heating surface of 1700 sq. ft. is installed next to combustion chamber, the gases from which are available for the generation of approximately 170 H. P. at 125 pounds pressure per sq. inch, should this be required. At present the City only utilizes power to drive the engine, and to operate the boiler feed pump, which is furnished with the plant.

In connection with the furnaces, a forced draft apparatus is installed, consisting of a Heenan and Froude high efficiency centrifugal fan of ample capacity, built up of steel plates and supported on a rigid steel frame. The fan is direct coupled to a Heenan high speed self-lubricated specially designed engine.

The suction of the fan is connected by a galvanized iron duct to an iron shaft running along the roof of the building. This shaft is provided with openings on the under side through which all the air required for com-

The entire furnace, combustion chamber for cremating carcasses and the boiler linings are of best fire brick. One of the noticeable features of the interior brickwork in the Heenan plants, is the perfect manner in which the firebrick is laid, the well turned arches and the corners rounded off, both to assist the flow of gases and to ensure long life to the linings.

The Operation of the Plant is as Follows:

The garbage is carted up the inclined roadway and the contents of the carts are dumped over the sill of the door (or as it is called, the tipping beam) on to the charging platform. The top of the containers being at this level, it is a simple matter for the tender to rake the refuse directly into them. In charging, the firebrick lined door under the container is withdrawn by means of wire rope and pulleys, and the contents dumped in one operation into the cell. After partially drying, the refuse is raked forward on to the grates. The clinkering operation is performed by simply fastening the wire rope of a winch (fastened to the wall in front of the cells) opposite the fire to be cleaned, to the draw bar in the cell, and by winding up on the winch, the fire is cleaned in one operation, in a mere fraction of the time ordinarily taken in this process.

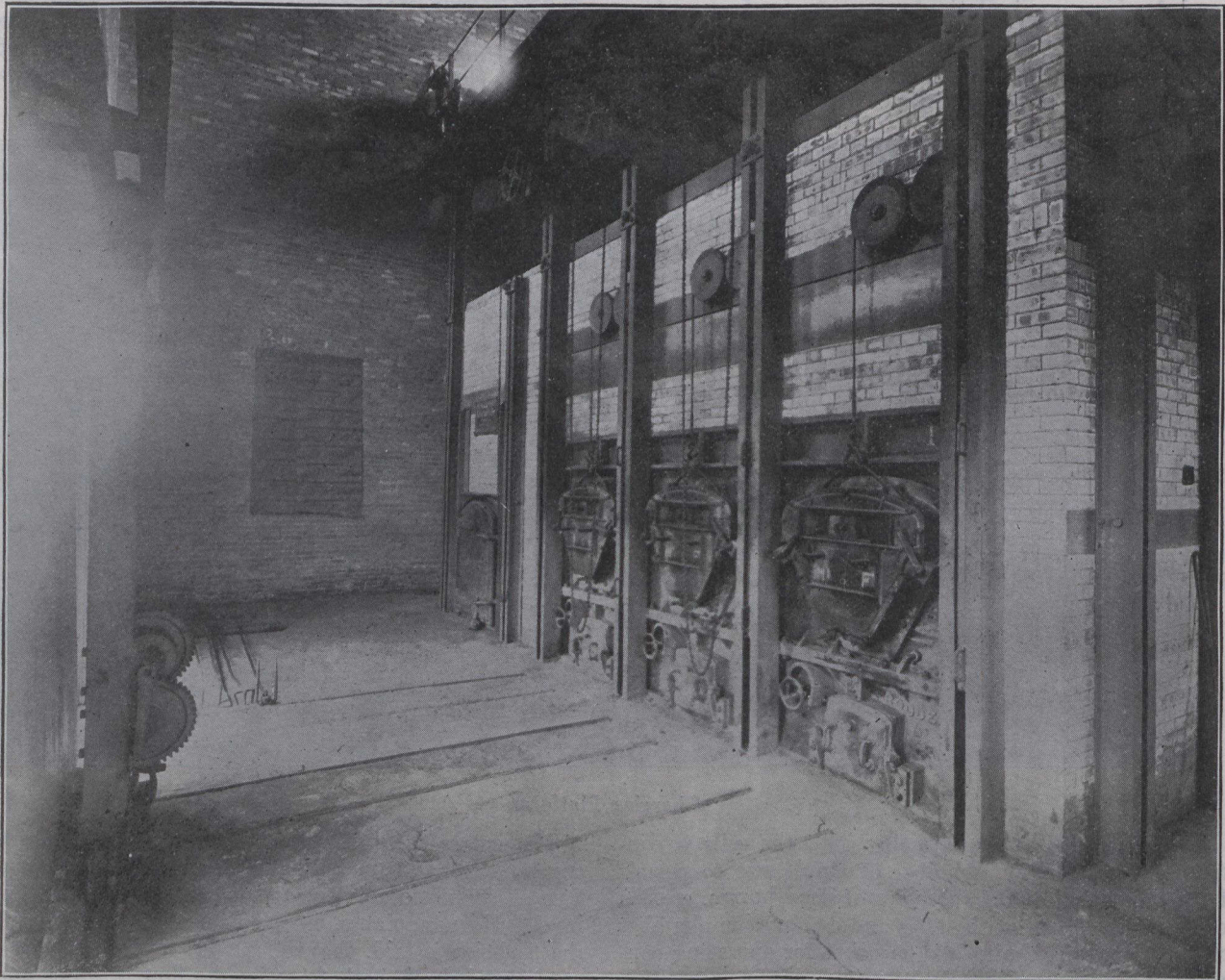
The forced draft from the fan being heated in passage through the reheater is carried in underground ducts to the ash pits, at which point air distribution boxes are fitted for the application of the heated forced draft; each box has a valve with an extension spindle to the front of the furnace for controlling the air supply. The valves are of special simple construction and give the maximum tightness with ease of manipulation and regulation of air supply.

The gases of combustion pass out of the cells at a minimum temperature of 1500 degrees and traverse the length of the carcasses cremating chamber and through the boiler tubes around which the gases are thoroughly

The Moose Jaw plant only requires the time of three men on three eight hour shifts to operate.

The plant is now disposing of 45 tons of refuse per day of 24 hours, although on test 53½ tons was consumed.

The Heenan Destructor was erected during the spring of 1912 under the direct charge of a member of the Engineering staff of Messrs. Heenan and Froude of Manchester, Eng., with the co-operation of their Canadian branch Messrs. Heenan and Froude of Canada, Messrs. Laurie and Lamb, Montreal, Managers. It was completed in the month of June, and in the month of July tests were carried out by the City to ascertain if



View of Furnace Room — Showing 3 furnace and cremation chamber.

circulated by means of the baffles; passing away from the boiler the gases flow through the tubes of the reheater, in this way heating up the air which is being forced into the furnace. The gases are finally passed to the chimney.

Roughly 25 per cent. of the refuse come from the furnace as a perfectly hard, innocuous clinker, free from any organic matter. In the city of Westmount, Que., in the year 1909, about 5000 loads of clinker were produced, 3000 being used by the Road Department in concrete and road work, the remaining 2000 loads being sold to Contractors. This clinker is especially valuable for use in concrete floors on account of its strength and lightness. It is also particularly useful for filter beds for the reason that it is unaffected by any chemical action produced by the sewage.

the Contractors had fulfilled their guarantees. The guarantees given by Messrs. Heenan and Froude of Canada were as follows:—

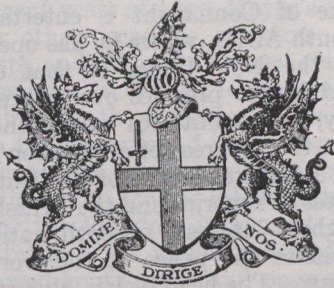
(1) That the plant offered shall be capable of burning to hard, innocuous clinker 50 tons of refuse per 24 hours or 25 tons in 12 hours, the refuse being on an average as per data supplied to us by you, consisting of, viz:—
 Animal and vegetable matter 60 per cent.
 Combustible matter, cinders, etc. 29 per cent.
 Incombustible matter, glass, metal and dust 11 per cent.

(2) We guarantee further that the combustion of this refuse will be complete and free from nuisance, and were fully carried out, and are given in tabulated form chimney.

The tests will be found in the Engineering Department.

The Guildhall of the City of London History, Ceremonials and Government

H. Wisely Bragg *



The Armorial Bearings of the City

Little is known, in Canada, of the interesting Guildhall with its history dating back many hundred of years. Because it always appears as the place where innumerable visitors to the Empire City are lavishly entertained in truly royal style we imagine it to be merely a place of banquets and feasting. It has filled a position of the greatest importance in the national life of not merely the United Kingdom, but of the Empire; it is not merely the civic centre of municipal government in the true or literal sense. True it is the means of governing the greatest city in existence through the Lord Mayor, Aldermen and Common Council, but from it still, through long established custom, public opinion in the British Isles, and often throughout the Empire is aroused.

The Guildhall has been aptly described by Sir Walter Besant (London's modern historian) centered in the City of London as "the protectress of Freedom."

"It would be interesting to go over all the recorded instances in which the City of London interfered directly in the affairs of the Kingdom; such a survey would be a History of England as seen from the windows of the Guildhall.

"The true history of the Guildhall is to be based on the numerous traditions and interesting associations by which it is connected with the most important Corporation in the world. The stirring episodes, religious, political and social, with which this Hall has been associated for many centuries, clothe it with a far deeper interest than could any mere technical description of its walls, its masonry, the painted glass and sculpture, with which it is adorned."

In passing it will be interesting to cite a few of the most important historical associations, which commence with William the Conqueror, then Richard, Coeur-de-Lion, whom the citizens assisted in his wars; followed by the Great Magna Charta secured by Fitz-Walter, leader of the Barons and the Lord Mayor of the City. Following some years later it is necessary to fortify the Guildhall prior to the Battle of Crecy.

During the reign of Edward the Confessor the Guildhall is finished, a building destined to receive and to welcome generations of England's greatest men,

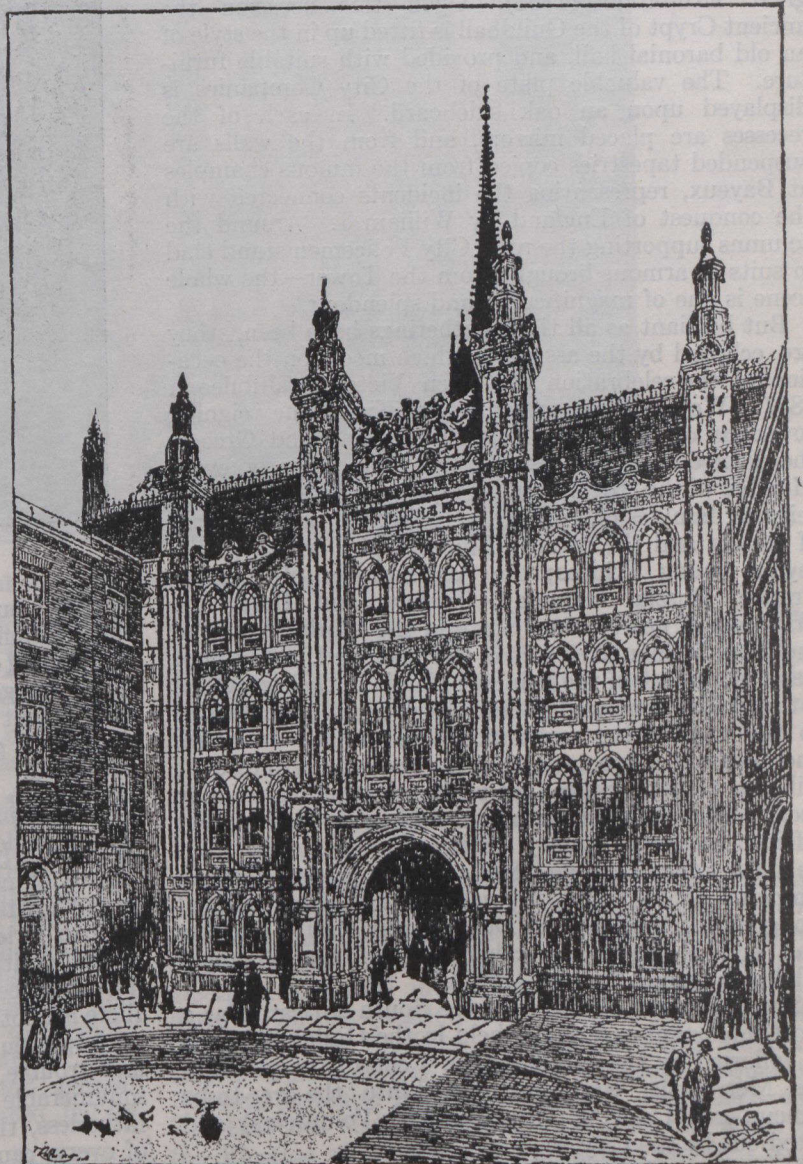
and to witness events of vital importance to the City, to England, and to the world.

The first Mayor's day is recorded in 1529 and we picture to ourselves the first of the recorded banquets. During the last years of Edward's reign, we see the citizens busily engaged in laying a proper foundation for the management of the hospitals they have acquired. To consolidate this great work, the King, on his death bed, grants a Charter of Incorporation to the Mayor, Aldermen and Commonalty, as Governors of these Royal Hospitals in the City.

Mary Tudor has not been long on the throne when we witness in Guildhall the trial of the aged Cranmer, the youthful Lady Jane Grey (she "that wolde a been qwene"), her husband, and two of her husband's brothers, who plead guilty, and are condemned to death.

In Elizabeth's reign the "Bourse" or Exchange was proposed; and later the Common Council in 1588 equipped sixteen of the finest men of war of that time, together with four pinnaces later to be used against the Armada.

With the accession of the Stuarts we have the citizens establishing their English plantation in Ulster which later became the property of the City. It is now also



The Guildhall of the City of London

* (The author is indebted to Sir John James Baddeley's book on the "Guildhall.")

that the new water supply is undertaken which in the future is to bring such a splendid supply of pure water into the heart of the City.

The next event of importance is Cromwell being fêted by the City.

Then follows the great plague and then the disastrous fire, which in the end did so much for the building-up of a fine city. The Guildhall suffered from the fire, and for three years was disused, until Sir Christopher Wren (the architect of St. Paul's Cathedral) put up a temporary roof, which lasted, however, for over two hundred years.

King James during his reign quarrelled with the Corporation and for six years the Lord Mayor and Aldermen were appointed by the King, which was one of the direct causes of the loss of his throne.

During the American revolution the Common Council and the Liveries protest against the action of the King and suggest that such conciliatory measures be adopted as might restore union, confidence and peace to the whole Empire.

Following the custom of many of her predecessors, Queen Victoria honoured the City with her presence on the first Lord Mayor's Day after her accession to the Throne (1837). We see her here again, accompanied by her Consort, "Albert the Good," in the year of the great Exhibition (1851). Upon this occasion the ancient Crypt of the Guildhall is fitted up in the style of an old baronial hall, and provided with suitable furniture. The valuable plate of the City Companies is displayed upon an oak sideboard. In each of the recesses are placed mirrors, and from the walls are suspended tapestries copied from the famous examples at Bayeux, representing the incidents connected with the conquest of England by William I. Around the columns supporting the roof, City Policemen stand clad in suits of armour brought from the Tower—the whole scene is one of magnificence and splendour.

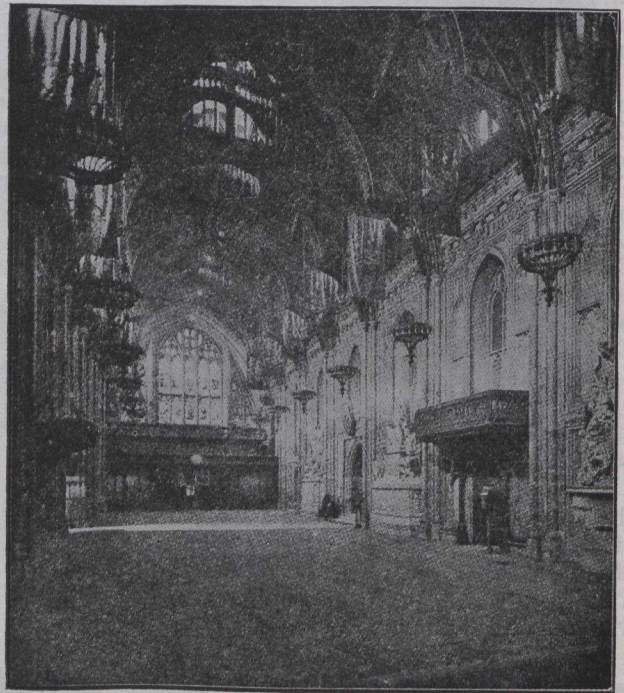
But brilliant as all these gatherings have been, they are eclipsed by the assembly which meets on the occasion of the celebration of Queen Victoria's Jubilee in 1887. We see there present, four Kings, the reigning sovereigns of Denmark, Belgium, Saxony and Greece; the Prince and Princess of Wales and nearly every Member of the Royal Family; representatives of various reigning families of Europe, including the present Czar of Russia and the present Emperor of Germany, then joyous young Princes; the Ambassadors of Austria, France, Russia, Germany, Turkey, and Italy; the Ministers of nearly every State in the World; a host of the most distinguished men of the time; and, last but not least, a number of the Princes of India in their gorgeous attire. Five thousand guests are present, which taxes to the utmost the accommodation of the Guildhall, and presents a spectacle that no one who witnesses it will ever forget. Since that brilliant gathering, we may recall stately entertainments to do honour to the great African Explorer, Stanley (1890); to celebrate the Jubilee of the Penny Postage (1890); to the present German Emperor (1891); and to welcome the International Congress of Hygiene and Demography (1891); and the Ball and Reception in celebration of the Diamond Jubilee of Queen Victoria (1897).

Soon after the outbreak of the South African War a most important meeting is held in the Guildhall which is followed by the enrollment of 1,500 of the youth of the Metropolis, who are formed into the ever-to-be remembered C.I.V.'s (City Imperial Volunteers) and fitted out by the City.

In 1907 a unique event is witnessed when the Prime Ministers of seven of the self governing Colonies,

Canada, Australia, New Zealand, Cape Colony, Newfoundland, Natal and the Transvaal, are welcomed at a banquet.

A memorable year opens when H. R. H. Field-Marshal the Duke of Connaught is entertained on his return from South Africa, where he has opened the first Parliament of the New Union of that country. In April, the Lord Mayor presides over a great representative assembly, which initiates one of the most significant epochs in the progress of civilisation by adopting the principle of a General Treaty of Arbitration between the United States of America and the British Empire, as serving the highest interests of both nations, and as tending to promote the peace of the world. It is a notable gathering. The head of His Majesty's Government moves the adoption of the principle, which is seconded by the Leader of the Opposition, and speaking in support of it are the heads of the English Established Church, the Roman Catholic Church in England, the



Interior of the Guildhall

Jewish Church, and several leading Nonconformists, and a Colonial Premier. June 29th witnesses the most loyal and enthusiastic reception of their Majesties King George V. and Queen Mary on the celebration of their recent Coronation. This is one of the most distinguished gatherings the ancient Guildhall has ever witnessed. To meet their Majesties no less than twenty-four members of the Royal Family (including the Prince of Wales, who is just entering on his eighteenth [year] and the Ambassadors and representatives of nearly every civilised country in the world accept invitations to be present.

Such briefly, are some of the stirring historic scenes, political, social and personal, that this Guildhall during the centuries of its existence, has witnessed. But there is another aspect of the City's work that must not be forgotten. During these centuries, amidst turmoil and trouble, there passes before our eyes a vision of innumerable applicants for assistance — the widow, the fatherless, the oppressed, the champion and advocate of every cause which has for its aim the well-being of our fellow-man,—who have all received a welcome here, —and, during the whole of its lengthened and glorious

career, its doors have never been shut to such, while the many who entered with sad, but hopeful hearts; have, if their case has been found deserving, never been turned empty away.

In more recent years at Lord Mayor's Day Banquets, and on many other occasions, statesmen, diplomatists, philanthropists, and other public men standing prominently in the estimation of their fellow countrymen, have paid high tribute to the Corporation and its work, not only through the centuries of its existence, but for the work it is doing at the present day, not only for the good of its own citizens but for the inhabitants of London at large, and for the kingdom in general; instancing the building of bridges, the management of the police, its markets, its well-kept streets and open spaces, and for the foundation of its Library, Art Gallery and Schools.

The Buildings

The Guildhall is picturesquely, situated in the heart of busy London, municipally governing "the one square mile" which constitutes the City proper, but dominat-

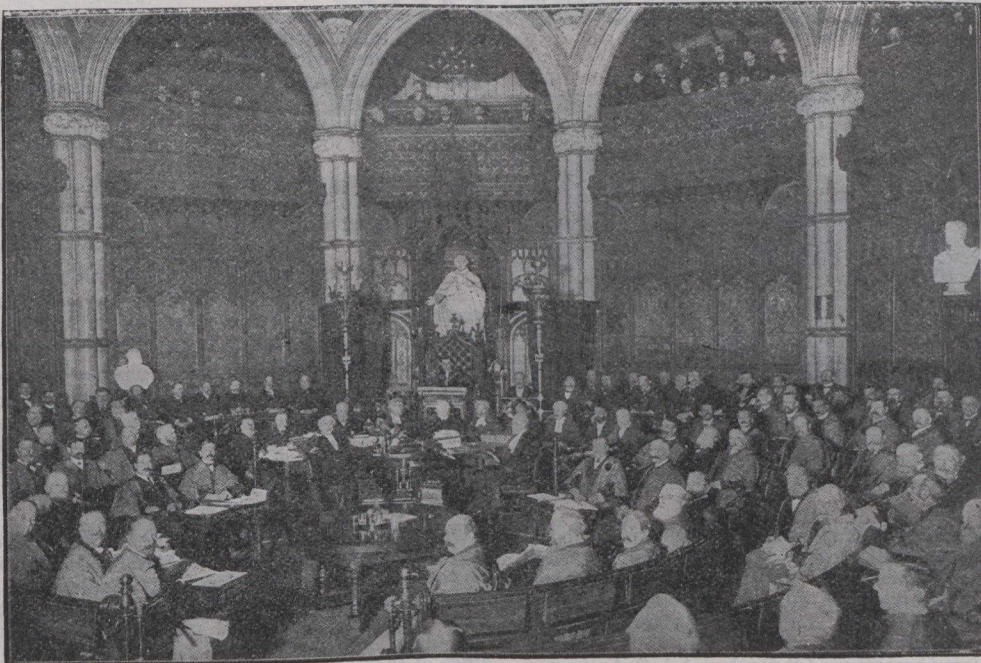
made a few years later remained unchanged for two hundred years or till the new roof was added, and the building considerably increased in size and height. The monuments to Wellington, Pitt, Chatham, Beckford were lowered so as to be more readily admired.

In 1900 a gallery was erected where the Lady Mayoress and the ladies of the Aldermen and Sheriffs look down upon the banquets.

Space will not permit a long description of the various beauties of the Old Guildhall, so we must pass the stained glass windows merely remarking on their beauty, and that they represent historic scenes that have taken place within the walls.

The Monuments

The monuments would occupy an article by themselves, that of Lord Mayor Beckford, William Pitt, Duke of Wellington and Nelson are the most beautiful. The historic figures of Gog and Magog are of special interest. These constitute but a very small representa-



The Council Chamber. First Meeting after Lord Mayor's Day.

ing the affairs of the Greater London, and also the many Guilds which, having no building of their own, make this their headquarters.

The building which we enter through a Gothic archway was built during a period extending over many years, by subscriptions, fines and also assisted by various Kings.

From the Porch, through a pair of exceedingly handsome oak doors, we enter the historic Guildhall, in which have been enacted a greater number of glorious scenes of national importance than in any building in the kingdom, or perhaps in the whole world; "the place where the citizens have for ages been accustomed to assemble, not only to transact municipal business, but also freely to discuss public grievances, to consider and suggest remedies for great social evils, and to promote the general interests of humanity. We are at once struck with its magnificent proportions and general appearance of vastness—a vastness enhanced by its beautiful open timbered roof."

It was not till 1439 that the present new building was completed, which stood till the great fire of 1666 when the roof and front were greatly destroyed. The repairs

tion of the many forms the statuary takes, for example in the Council Chamber there are busts of leading statesmen surrounding almost four sides and again throughout the building there are various examples of work in marble and other stone.

Public Meetings in the Hall

This magnificent Hall is not used merely for meetings connected with Corporation elections, meetings of the Common Hall, ceremonials and festivities. By permission of the Lord Mayor or the Common Council, meetings of public interest and importance are held here, on various questions interesting to the country at large as well as the City. Among these may be mentioned Parliamentary Reform, Religious Equality, National Defence, Popular Education, Journalists, &c. The Hall has also witnessed many a stirring scene in the Election of Members of Parliament for the City.

(To be continued in March issue.)

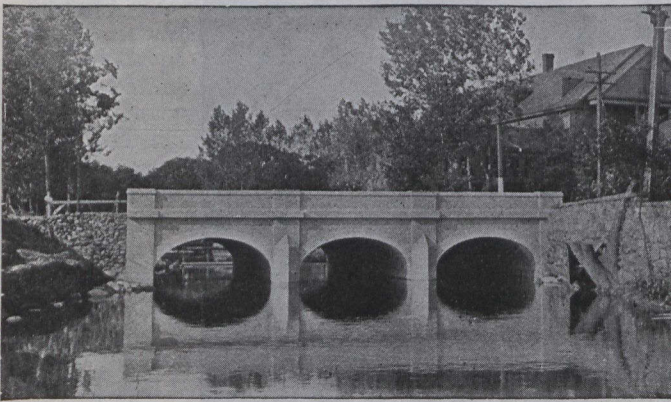
Equipment and Engineering

Interesting Notes on the latest Municipal and Telephone Appliances.

An Attractive Concrete Bridge at Methuen, Mass.

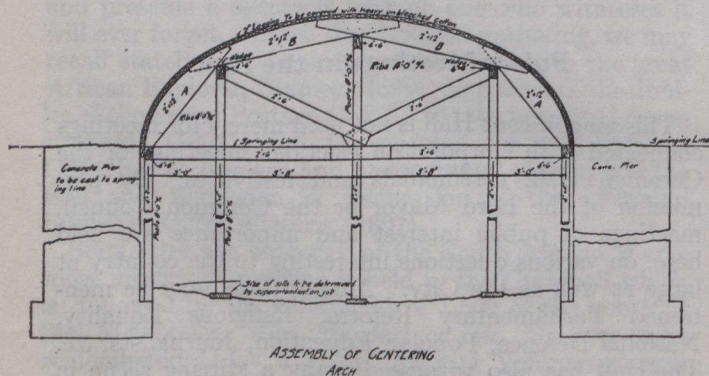
The recently completed "New Broadway Bridge" which spans the Spicket River on the road between Lawrence and Methuen, Mass., is an interesting example of what may be accomplished in bridge design with concrete when both utility and esthetic appearance are of importance. The bridge is a gift to the town of Methuen from Edward F. Searles, its most prominent citizen.

In designing the bridge the Aberthaw Construction Company of Boston, Mass., who also built it, followed the suggestions of the donor. It was desired to erect a structure that would serve the traffic needs of the town to the best advantage and at the same time add as much as possible to the appearance of that section. Mr. Searles did not desire anything elaborate or ornate, so the bridge was designed with almost severe plainness. It is to its very severity of architectural treatment that much of the attractiveness of the bridge is due.



The bridge is 80 feet long from the end of one abutment to the other, and 74 ft. 2 ins. overall width. It has three arches, each 18 ft. wide placed on 22-ft. centers. The forms for these arches were detailed at the contractor's office so that there was no confusion, nor delay on the job. The details of these forms are shown in the accompanying cut. The concrete footings are 5 ft. wide and the piers themselves 4 ft thick. A 1:2:4 mix was used.

Across the central portion of the bridge run the double tracks of the Bay State Street Railway Co. On either side of the car tracks is a roadway, and flanking the roadways are two sidewalks, 8 ft. wide. The width of the roadway is just 50 ft. from one sidewalk curb to the other. The road is of macadam, and between it and the concrete bridge floor is a 3-ply waterproofing of felt and asphalt.



As will be seen from the photograph the parapet on either side of the bridge is without ornamentation being simply a

wall with plain capping. The parapet was chosen in preference to an iron railing as it added enough to the artistic appearance of the bridge to pay for the extra expense. At either end of the piers is a small buttress of uniform cross sections which, despite its plainness, adds considerable to the appearance of the bridge. The surface of the spandrel and parapet walls are picked, while the edges of the arches, the floor, and the parapet capping were rubbed smooth.

Provision has been made for four electric light posts, one at each buttress. When these are installed, they will add to the general attractiveness of the bridge.

In putting in the piers a small coffer dam of 3 in. matched sheeting was sunk into the gravel bed of the river and the pier centering was hung from the horizontal sheeting braces.

A 16-in. water main that crossed the river at the bridge was provided for in the following manner: The pipe was carried on a 4-in. I-beam, which rested on two trench braces at each pier. The braces placed side by side were expanded until the pipe was brought to the proper level. Then the concrete was poured around the braces and a permanent support at this level was assured.

The bridge is another to add to the long list of those built by The Aberthaw Construction Company and is in keeping with their reputation for high grade concrete work.

EXTENDING IN CANADA

The Standard Underground Company of Canada, Limited, has established new branch offices at Montreal, Quebec and Winnipeg, Man., in order to facilitate the prompt handling of their growing business.

The Montreal office will handle all business from the province of Quebec and the eastern part of the Province of Ontario. This office is in charge of Mr. R. G. Harris, formerly connected with the general offices of the Standard Underground Cable Co., Pittsburgh, Pa., but more recently with the New York sales office of that company.

The Winnipeg office will handle all business coming from the Provinces of Alberta, Saskatchewan, Manitoba and a portion of the Province of Ontario lying west of Ft. William. Mr. B. S. Stewart has charge of this office. Mr. Stewart has spent some time in the general offices of the associate American Company, Pittsburgh, Pa., later going to the Chicago sales office of that company where he has spent a number of years.

The general offices of the company at Hamilton, Ont., will handle all business from the Central and Northern portions of the Province of Ontario. Mr. W. H. Marsh, Sales Manager and Secretary of the Company, has direct charge of business coming into this office as well as general supervision of the various branch offices.

Business originating in the Province of British Columbia and in Alaska and Yukon Territories will be handled by the Seattle, Wash., office of the company, and business from the Maritime Provinces will be handled by the Boston, Mass., office. This is a temporary arrangement in order to secure prompt service immediately for customers in those districts until the volume of business justifies establishing separate offices in the Dominion.

The establishment of these branch sales offices puts the Standard Underground Cable Co., of Canada, Ltd., in an excellent position to handle with accuracy and despatch all business which they may secure. The men in charge of the various offices are salesmen of experience and ability, released by the Associate American Company in order to strengthen the personnel of the Canadian Company.

WRITING ON BLUEPRINTS

To write notes or dimensions on blueprints use a pen dipped in saleratus water, or rub a cloth saturated with the solution on the print and write with a pencil on the resulting white spot.—Exchange.



TELEPHONE NEWS



OFFICIAL INFORMATION
OF THE
CANADIAN INDEPENDENT TELEPHONE ASSOCIATION
& C, & C, & C,

AUTOMATIC TELEPHONE SYSTEMS

We take pleasure in announcing to all the municipalities throughout the Dominion that our automatic telephone systems have proved, and are proving to be, very successful, both from the standpoint of operation, and from the great satisfaction given to the telephone subscribers and users.

We are manufacturing in Canada, employing Canadian labor and capital, complete automatic telephone systems, switchboards, substations and supplies of a very superior type. We are prepared, and offer, to supply on reasonable notice, complete automatic telephone equipment for any size of exchange from 100 lines up to 10,000 lines or more, and at reasonable cost.

Our automatic telephone system lends itself to any desired subdivision desired for the purpose of saving in trunk line installation, cheapening of service and installation, and for flexibility, adaptation to conditions, economy in operation, durability, positive contacts and superior talking circuits, automatic party line telephone service where required, together with all of the other advantages and savings afforded by the superiority of automatic over manual telephone apparatus and operation.

We take this occasion to again inform the officers and all municipalities throughout the Dominion, as well as the general public, that the Canadian patents owned and controlled by our company, cover the essential principles of automatic telephony, and that it is our opinion and belief that no system of automatic telephones or semi-automatic telephones of any considerable size can be operated without infringing upon the claims of our Canadian patents, and that we are manufacturing in Canada under our patents and are selling and offering for sale automatic telephone equipment in accordance with the rules and practice and Patent Laws of Canada and that we will hold all infringers, both public and private, responsible.

The great saving in cost of installation and operation of automatic telephone systems over manual telephone systems is becoming generally recognized both by the public and by telephone engineers and experts generally. The superiority and general desirability of automatic telephone service over that of manual telephone service has been so thoroughly demonstrated that it is now recognized generally, and we will be pleased to correspond with any and all municipalities and individuals, corporations and associations desiring further information or contemplating the installation of telephone apparatus.

All of our telephones and telephone equipment, both manual and automatic, are fully guaranteed both as to quality and workmanship.

Canadian Independent Telephone Co.,
LIMITED

18-20 Duncan St., TORONTO, Ont.

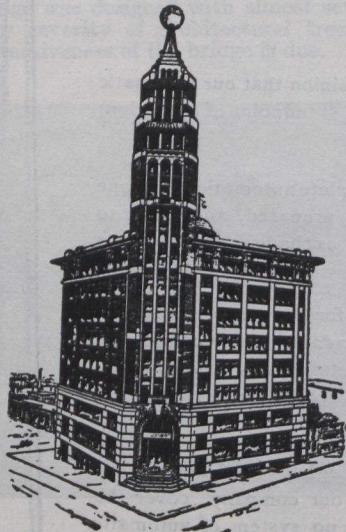
Telephone and Telegraph Relay or Repeater. — The invention makes use of a primary and secondary coil connected respectively to the incoming and outgoing line circuits and a third coil insulated from the two former and in circuit with an independent source of current. In one form of this relay the coils are wound around an iron core, and a continuous current is passed through the third, or auxiliary, coil, of such a strength that the magnetic field due to it will cause the iron of the core to be at, or about, the point of maximum permeability. — John H. Cuntz, Hoboken, N. J. — 1,038,301.

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POLES

Sectional View of 3 Conductor D. O. A. Terminal for 2,500 Volt Service.

Labels in diagram:
 - CABLE CONDUCTOR
 - INSULATOR (MAGNETON OR COM. POSITION)
 - BRASS COLLAR (THREADED)
 - TERMINATION FORM (BRASS OR ALUMINUM)
 - CABLE CONDUCTOR
 - BRASS TERMINAL BELL
 - THIS SPACE FILLED WITH FOOTE INSULATING COM. PASTE
 - BRASS WIRE JOINT FROM BRASS BELL TO LEAD SHEATH OF CABLE
 - LEAD SHEATH OF CABLE

NOTE THAT JOINT IS UNDER THE PETTICOAT OF THE INSULATOR WHICH PREVENTS ANY MOISTURE FROM ENTERING.

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OFFICERS FOR 1912-13 :

President : G. W. JONES, Clarke, Ont.

Sec.-Treas : F. DAGGER, 21 Richmond St. W., Toronto

Independent Telephone Systems in Northern Ontario

T. R. CRAVEN, Secretary Treasurer
Temiskaming Telephone Co.

There is in New Ontario an inland empire of more than sixteen million acres of fertile clay lands and untold mineral and timber wealth on the eve of development which offers an opportunity for development of independent companies second to none in America.

The prairie provinces have government ownership; the choice territory in Ontario and Quebec is occupied by the Bell Telephone Company; the Maritime Provinces by old established subsidiaries, but the Bell Company only occupies a foothold in the outskirts of New Ontario.

The municipally owned systems at Fort William, Port Arthur, and Kenora are well known, but, it is not well known that the Temiskaming and Northern Ontario Railway Commission operates a commercial long distance telephone system from North Bay to Porcupine and Cochrane a distance of 286 miles; and that Cobalt, South Lorrain, Elk Lake, Gow Ganda and Porcupine mining camp, and the important industrial centres of Latchford, Haileybury, North Cobalt, New Liskeard, Englehart, Charlton, Ville Marie and Cochrane, in that territory are all occupied by independent interests, exclusively; and that within four years some six farmers' mutual telephone systems have come into existence and are operating in the farming country between New Liskeard and Englehart.

The present position of the Ontario Statutes covering the operations of an Ontario incorporated telephone company places a big handicap on an Ontario independent company operating there. It is well known that under provisions of the Railway Act as enacted by the Dominion Government, if a telephone company cannot secure the consent of a municipality to occupy the streets and roads of a municipality, it can apply to the Board of Railway Commissioners of Canada. This Board will give the telephone company desired permission and name such terms as will be fair to both parties. The Board of Railway Commissioners, however, only has jurisdiction over Dominion incorporated companies and a telephone company having Ontario incorporation cannot get running rights from the Board of Railway Commissioners.

The only Dominion incorporated company now operating is the Bell. This matter does seriously effect independent companies operating in older parts of Ontario, who usually only occupy one or two townships, but in new Ontario, townships are smaller and there is scope for an independent telephone company to extend over many townships, and enter many towns. Some of these townships and towns fail for a long time to incorporate and secure municipal government, and as the law is at present they must be left without independent telephone development, or else the party desiring to build there must take a chance of getting the township

council to grant a franchise when it finally comes into being. It may be that even in old Ontario there are many persons who at present suffer on account of the present law, for it is necessary under the Municipal Act for municipalities to grant all consents by by-law. This is not known to every one entering the telephone business and many systems have been built with no other leave than a resolution or possibly an arrangement by word of mouth with the reeve and some of the Township Council. We all know how difficult it is after a system is all built to secure running rights if we have built without these.

The situation is different in the province of Quebec where a law similar to the Dominion Act is enforced. Under the Public Utilities Act of Quebec, if a telephone company incorporated by Quebec letters patent cannot secure the right to operate in a municipality it can apply to the board of Public Utilities and the matter is there arranged.

Similar legislation of the Ontario Legislature allowing an appeal in such case to the Ontario Railway and Municipal Board will remove a big handicap which is bound to be felt sooner or later by the Ontario Independents.

Pensions for Employees

Employees of the Bell Telephone Company and its affiliated companies in the States are to be well protected in the matter of Pensions, Disability Benefits and Insurance, as the Company has arranged to provide a fund of ten million dollars for that purpose, and no contributions will be asked from the employees.

The total number of employees is about 175,060, of which 130,000 belong to the Bell system. The total pay list is about \$115,000,000 annually, \$80,000,000 of which goes to the Bell employees.

Pensions are automatically based on length of service and amount of pay, based on the average pay for 10 years multiplied by the number of years of service, thus being 30 per cent. of average salary of the last 10 years, but never been less than \$20 a month.

Provisions are made for temporary or permanent disability and for sickness; while life insurance benefits are given to the families of employees.

This new departure in the policy of the Bell deserves great credit and should be an example to other similar corporations.

We hope, and believe, that a similar policy will be inaugurated by the Bell Company of Canada for its employees in the Dominion.

Telephony. — The invention relates particularly to the switching mechanism that is employed at the telephone stations for operating selecting mechanism at the exchange for automatically extending telephone lines. — Charles A. Bals, Chicago Ill., Assignor to Corwin Telephone Mfg. Co. — 1,040,635.

Telephony. — The invention relates to that class of telephony in which a plurality of telephone stations are connected with the same line, constituting what is commonly known as a party telephone line. In the preferred embodiment a switching device is employed for including and excluding resistance from the telephone bridge at each party line station that is visibly brought into operative position at the party line station first appropriating the line for use, and which is withheld from operative position at each other party line station irrespective of the position of the telephone receiver thereat so that this resistance introducing switching device also may serve as a signal to inform a party line subscriber seeking to take the line whether or not the line has previously been appropriated. — Charles A. Bals, Chicago, Ill., Assignor to Corwin Telephone Mfg. Co. — 1,040,636.

Sample of information and style of set up

Province of.....

Information as to the laws governing Municipalities under different acts ; classes of Municipalities ; Elections ; Incorporation, etc. The capital will be given first, then will follow cities, towns, villages and rural municipalities in alphabetical order with information about each.

Arranged similarly to the following :

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Inc. 1877 ; Area, 1700 acres ; Population, 10,440 ; Railways, G. T. R. and C.N.O.R. Government :—Mayor and 21 Aldermen, elected for one year ; 7 Wards. Date of election, 1st Monday in January. Finance :— Exempted Property, \$1,142,800 ; (a) Municipal, \$282,000 ; (b) Federal Government, \$205,100 ; (c) Provincial Government, \$3,500 ; (d) other exempted property, \$652,200 ; Assessed Valuation, \$6,649,152. Tax Rates :—(a) Mun. 16m. ; (b) Sch., 9.15 m. Other items of Municipal Revenue, Water Works, Gas Works Improvements are charged to :—Sidewalks charge 40 per cent. to property owners, 60 per cent to City ; Sewer charged to property owners. Debenture Debt, \$1,010,737.04 ; Sinking Fund, \$166,216.15.....

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Ald. D. H. Ackerill	Ald. F. M. Clarke	Ald. John E. Parks
“ Walter Alford	“ Philip Flagler	“ Albert Robinson
“ J. L. Anderson	“ Wm. Lott	“ F. Slater
“ Walter Black	“ Bowen A. Lucas	“ Wm. S. Smith
“ Robert Bogle	“ O. A. Marshall	“ A. Wallace
“ John Canning	“ J. O. R. McCurdy	“ R. P. White
“ R. C. Chown	“ W. H. Panter	“ W. A. Woodley

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CIVIC NOTES

WESTERN PROVINCES.

ATHABASCA LANDING, ALTA. The Department of the Interior is preparing to sell to the Provincial Government a block of land, 483 acres in extent, for the establishment of a demonstration farm.

BATTLEFORD, SASK. Civic improvements include the doubling of the three miles of water mains and the laying of three miles of sewers, along with the construction of a sewage disposal plant. — The extension of the city limits is being agitated, but is not looked on with much favour by many citizens.

BRANDON, MAN. The Board of Trade and a special committee from the Council are discussing the public abattoir question. — A produce market will be built shortly.

CALGARY, ALTA. Commissioner Graves says the water supply is not adequate, and the situation becomes more serious every day, work on the proposed extension was delayed when the by-law for a filtration system and other things, was voted down. — The North West Brass Company will be allowed an exclusive spur at Inglewood. — The G.T.P. will be in the city early in the spring. — The five financial by-laws were carried, but the by-laws admitting the Alberta Inter-Urban Railway to the city, was defeated by a large majority. — A chlorination plant is being built near the intake pipe and will work automatically. — The Sewage dumping into Elbow River has been checked.—It is suggested that the city should purchase 500 acres as an industrial site, where the municipal power plant shall be installed, and proper reservation made for workmen's homes. — A vacuum machine to clean any paved streets, is being advocated.

CARDSTON, ALTA. The municipal programme is for water and electric light etexnsions, probably a new town hall, a new school house; the local electric light system gives excellent service but will soon be inadequate; the water system has been planned for the requirement of a rapidly increasing population and is expected to be on a paying basis in the near future.

DAUPHIN, MAN. Contractors say both the sewerage and water systems will be completed by September. — The C.N.R., has been making large improvement in their system at this point, including a \$50,000 station. — Several new industries started up during the year. — Another bank has signified its intention of opening a branch here, making five branches of chartered banks.

EDMONTON, ALTA. The city council decided to adopt the plan of building a belt line system of 110 miles of electric railway; 220 cars will be required to equip the entire system; every building site in the corporate limits will be within three and a half blocks of a car line. — The city will operate its own street paving plant. — The capacity of the Acme Brick plant is being trebled.

HIGH RIVER, ALTA. The tests of the natural gas well at Aldersyde have been most satisfactory.

HUMBOLDT, SASK. The contracts for the engine and boilers for the electric plant together with their installation, have been let. — A by-law for the installation of waterworks and sewerage will be submitted at an early date.

LETHBRIDGE, ALTA. The by-law for commission government with the initiative referendum, and recall, was passed by an overwhelming majority.

MEDICINE HAT, ALTA. A million dollar plant for the manufacture of cement is to be erected; 200 men will be employed. — The B. Scrage Iron and Metal Company has purchased a site for the erection of a factory; they have asked that a spur line be extended to their property as soon as possible. — A grease factory will be established here in the spring. — New parks and new industrial sites have been provided by the passing of the by-laws.

MOOSE JAW, SASK. The new industrial hall is ready for occupation, but the formal opening will be delayed indefinitely, as the committee has decided to wait until the booths are filled with exhibits of local industries, and also with as many outside ones as possible. — The plans for the armory and drill hall have been received; as a site, five acres of the exhibition grounds has been chosen.

NEW WESTMINSTER, B.C. The by-law to build an ice rink in the large Horse Show building in Queen's Park, was passed by a large majority. — The City Council will build wharves along the waterfront, extend Front street to afford trackage, etc.

NOKOMIS, SASK. There is a proposal from eastern capitalists to establish a flax industry here.

NORTH BATTLEFORD, SASK. The building operations this year will include a post office and customs building, collegiate institute, high school, two fine hotels, and warehouses.

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CIVIC NOTES



EASTERN PROVINCES.

CORNWALL, ONT. The by-law ratifying the agreement with the Stormont Electric Light and Power Company, for the supply of electric light and gas to public and private consumers at a reduced cost, was carried by a majority of 428.

FORT WILLIAM, ONT. Among the Harbour improvements for 1913, is the dredging and removing of 25 acres of land out of the Kaministiquia River, near the western limits of the city; this will straighten the river and a turning basin of over 6,000 feet in width will be formed. — The population is now 22,884, an increase of 2,240. — The C.P.R. is building a plant for manufacturing Pintsch gas for the coaches.

GUELPH, ONT. The Light and Heat Commission has announced a substantial reduction in the gas and electric rates. — A new industry is commencing operations, manufacturing musical furniture such as piano stools, benches, gramophone record cabinets, and similar articles.

HALIFAX, N. S. An incinerator plant and a new water reservoir are being built. — The Militia Department has expropriated the western side of Macnab's Island, commanding the entrance to the Harbour; forts are to be built along that shore, and the existing forts to be strengthened and modernized. — New piers are being built at the southern end of the city for the use of the C.P.R., C.N.R., and N.T.R., for ocean and transcontinental business, while the northern piers are to be for the more exclusive use of the I.C.R.

HAMILTON, ONT. The Mercury Mills, Limited, capitalized at \$1,000,000, will build a factory here. — The Hamilton Malleable Iron Company has decided to build a \$250,000 plant here. — The C.N.R. may erect a fine hotel here near their station. The Board of Control asking that the city contribute to the scheme for building a concrete roadway from here to Toronto. — The Board of Trade is contemplating the building of a twelve storey hotel, on a site not yet decided upon.

LEAMINGTON, ONT. The council cancelled the franchise of the Windsor, Essex and Lake Shore Rapid Railway, and has barred the company from operating cars within the town limits, because the company refused to build a spur line to the lake, as their agreement with the city calls for.

LONDON, ONT. By the annexation of Potterburg and Eading, the population has reached 52,000, enabling the city to have Sunday cars. — The Utilities Commission may take over the Bell Telephone Company's franchise which expires shortly, and cannot be renewed. — The C.N.R. is planning a network of railways into this district with six radial lines into the city, if the city is willing to make satisfactory arrangements. — The nine by-laws were voted upon and eight were carried, the

franchise for Greene-Swift Heating being the only one defeated, the others were for consumptive Sanatorium grant. Dennis, the Findlay Porcelain Company, for a Board of Control, for a Federal Square, the C.N.W. Shoe Company, to abolish the Water Commission, and a two year aldermanic term.

MONTREAL, QUE. Owing to the enormous increase in the postal business, the authorities here have been empowered to instal a system of underground electric mail delivery. — The Ritz-Carleton Hotel was opened at New Year's, and already the demand for suites is greater than the supply. — Mackenzie and Mann are to build a large 700 room hotel facing on McGill College Avenue, near the new C.N.R. Station.

NORTH BAY, ONT. The by-law in favour of installing a municipal power plant was carried by an overwhelming majority; the proposal is to purchase the plant of the Nipissing Power Company, which is about twenty-five miles from here, and to spend a sufficient sum to equip a thoroughly adequate municipal system.

PORT ARTHUR, ONT., the Twin Cities need at least eight additional street cars to handle the rapidly growing traffic.

OAKVILLE, ONT. The by-law to establish a Park Commission and Municipal club was passed.

PORT NELSON, ONT., has been officially announced by the Minister of Railways as the bay terminus of the Hudson Bay Railway, which will be 418 miles long. — The first settlement here was a fort built in 1682 by the H. B. Company, taken by the French in 1691, re-taken by English, again by French in 1697, finally given to England in 1713.

QUEBEC, QUE. The Board of Trade thinks the time is ripe for the adoption of commission civic government.

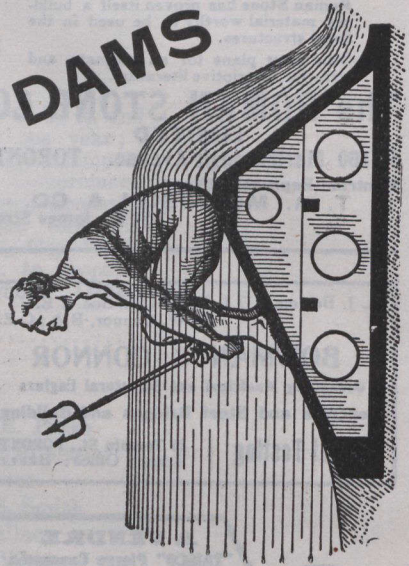
SANDWICH, ONT. A new steel plant, costing over \$20,000,000, which will turn out practically all classes of steel, is to be built here shortly; the site is 1,500 acres on a water frontage of a mile and a half opposite Detroit; operations will commence with a wire mill a rail mill, and a bar mill.

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Records Company of Canada, Limited.

Public Notice is hereby given that under the First Part of chapter 79 of the Revised Statutes of Canada, 1906, known as "The Companies Act," letters patent have been issued under the Seal of the Secretary of State of Canada, bearing date the 20th day of November, 1912, incorporating Charles Hazlitt Cahan, the younger, barrister-at-law, Orick Burrughs MacCallum, advocate, Mostyn Lewis and William Edward Brown, accountants, and James Louis Finlay, stenographer, all of the City of Montreal, in the Province of Quebec, for the following purposes, viz:—(a) To acquire, edit, compile, print and publish newspapers, books, journals, magazines or other publications, pamphlets, pictures and advertising matter of all kinds, and generally to carry on the business of publishers, printers, engravers, lithographers, binders, advertising agents and book-sellers; (b) To acquire, use, dispose of, buy, sell and deal in copyrights of every kind; (c) To subscribe for, purchase or otherwise acquire the shares, bonds, debentures or other securities of any other company or corporation, not with standing the provisions of section 44 of the said Act, and to pay for the same in shares, bonds, debentures or other securities of this company, and to hold, sell, with or without guarantee, or otherwise deal in the shares, bonds, debentures or other securities so purchased; (d) To consolidate or amalgamate with any other company or corporation having objects similar in whole or in part to those of this company; (e) To acquire and take over the whole or any part of the business, property and liabilities of any person or persons, firm or corporation carrying on any business which this company is authorized to carry on, or possessed of any property or rights suitable for the purposes of this company, and to pay for the same wholly or partly in cash or wholly or partly in paid-up shares of this company or otherwise; (f) To sell, lease, exchange, dispose of, turn to account or otherwise deal with the property, rights and undertaking of the company, or any part thereof, for such consideration as the company may think fit and in particular for shares, bonds, debentures or securities of any other company having objects altogether or in part similar to those of this company; (g) To do all such other things as are incidental or conducive to the attainment of the above objects and to all or any of the above things as principals, agents or attorneys; (h) To distribute in specie or otherwise, as may be resolved, any assets of the company among its mem-

bers and particularly the shares, bonds, debentures or other securities of any other company that may take over the whole or any part of the assets or liabilities of this company; (i) The business or purpose of the company is from time to time to do any one or more of the acts and things herein set forth, and any power granted in any paragraph hereof shall not be limited or restricted by reference to or inference from the terms of any other paragraph. The operations of the company to be carried on throughout the Dominion of Canada and elsewhere by the name of "Records Company of Canada, Limited," with a capital stock of twenty-five thousand dollars, divided into 250 shares of one hundred dollars each, and the chief place of business of the said company to be at the City of Montreal, in the Province of Quebec.

Dated at the office of the Secretary of State of Canada, this 21st day of November, 1912.

THOMAS MULVEY,
Under Secretary of State.

Utopia in Iceland

Iceland has no jails, no penitentiary; there is no court and only one policeman. Not a drop of alcoholic liquor is made on the island. Its 78,000 people are total abstainers, since they will not permit any liquor to be imported.

There is not an illiterate person on the island, nor a child 10 years old unable to read: the system of public schools is practically perfect. Much of the improvement is due to the abolition of the liquor traffic and prohibition of all alcoholic beverages in this compact little island of the north.—Temperance.

(This agrees with a statement made by an Icelandic settler in Canada, that no Iclander had ever been arrested in Canada.—Ed.)

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Tarvia at Waterloo, Ont.

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Tarvia is the oldest road-bonding bitumen on the market and is backed by eight years of experience. For less thorough treatments and superficial dust prevention work, there is Tarvia B and Tarvia A. One form of Tarvia or another will solve every macadam road problem, provide dustless low-maintenance surfaces and reduce general road costs.

Many towns as a result of their experience with Tarvia have adopted the practice of using it exclusively and are gradually extending it to cover all their thoroughfares.

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MUNICIPAL NOTES—Continued

NORTH VANCOUVER, B. C. A site has been chosen for a city hall, and a by-law will be submitted shortly, for the selling of the present site and to purchase the newly-chosen one.

OAK BAY, B.C. The Citizens' League sent a petition to the Reeve asking for a public wharf; the municipality is not able at present to build it, so it was decided to petition the Dominion Government; it was unanimously decided to oppose the erection of a privately owned wharf.

PORTAGE LA PRAIRIE, MAN. The by-law authorizing the city to make a contract with the Portage Development Company was passed by a 194 majority; the city will pay 5 per cent. on the investment of all manufacturing companies induced to locate here by the company; the manufacturers must invest at least \$50,000 including cost of site, machinery and building, plants to be completed one year from time of notice.

PORT MANN, B. C. The British Columbia Electric Railway Company will build into this city, and connect it with the system on the lower mainland of the Province.

PRINCE ALBERT, SASK. The dam for the new power plant is well underway and will be finished during the year; it will be capable ultimately of developing 15,000 horsepower, and the plant which is to be installed at present will develop 4,500 horsepower. — A Minneapolis firm has already contracted with the city for the surplus power for establishing a pulp and paper mill. — A chemical company is arranging to establish a plant here. — The new ornamental street standards with clusters of five large globes are now in use, giving great satisfaction. — The C.N.R. Hudson Bay Railway is to pass through here.

PRINCE RUPERT, B.C. It will probably take ten years to complete the harbour works planned, which include berths for the big ocean liners, shipyards, lumber yards, fishing plants, saw mills, ore docks elevators, warehouses and other industries, the plans are sufficiently comprehensive to accommodate all the requirements of a city of several thousand people. — By spring it is expected that work on the construction of a fertilizing plant will be well underway; a cannery is also projected, in connection with the plant.

RED DEER, ALTA. The Alberta hotel proprietors are planning to build a fine up-to-date hotel, with all modern conveniences.

REGINA, SASK. The Board of Trade is agitating for cheap power, and is asking the new Council to take step to secure it. — When the sewer system is completed this year will be most modern and up-to-date plant. — A million dollar elevator consisting of a grain dryer, a 2,000 roller mill, storage elevator of 1,000,000 bushels, warehouse, weigh scales, power house, is to be built here.

SAANICH, B. C. The Council will pave about 23 miles during the coming year; the Provincial Government will assist in the cost of permanent pavings.

SASKATOON, SASK. There is to be a public library and temporary premise will be secured at once. — Arrangements have been completed for the erection of a \$500,000 post office, to be located on 23rd street and 3rd avenue. — New barracks for the Mounted Police will be erected on the site of the present buildings. — A new steel or concrete bridge will be built. — The C.N.R. shops are not to be located here.

SOUTH VANCOUVER, B. C. The question of the paving of the Westminster road, lying within the border of this municipality is at a standstill owing to the difference of opinion as to the kind of pavement to be used. — There is a proposal to establish a gas manufacturing plant here.

TRANSCONA, MAN. The National Transcontinental shops have been turned over to the Grand Trunk Pacific; seven acres of roof cover the various buildings, which include a 1,000,000 gallon reservoir, locomotive works with twenty-six engine pits, car building shops and every requisite for the repair and manufacture of all railroad equipment.

VANCOUVER, B.C. The report of the committee, recommending that the city should refuse the offer of the Provincial Government to sell the old court house site for \$1,000,000 for public park purposes, was unanimously accepted by the Council. — The request of the Park Board for the use of the old isolation hospital site in Grandview for a park, has been granted. — Tenders have been called for the proposed Georgia-Harris concrete bridge. — False Creek is to be dredged, a drydock built on Burrard Inlet, and government wharves will be built on an expropriated site, besides two government owned wharves on Burrard Inlet, these are among the improvements promised by the Federal Government. — A branch factory of a big American firm manufacturing cans, is to be established here on a site submitted by the C.P.R. — The Park Commissioners have been ordered not to cut down any trees in Stanley Park. — The Exhibition Association has decided to ask for the Dominion fair in 1915 on the strength of the opening of the Panama Canal; the B. C. Electric Railway will be asked to give better facilities for the handling of the people to and from the fair grounds; the C.P.R. has expressed willingness to install a siding at the grounds, on which all exhibits in cars may be shipped to the spot. — In connection with the Greater Vancouver Sewerage scheme, an expert has estimated that the population will be 1,400,000 in 1950, when the whole system will be completed.

VICTORIA, B.C. The C.N.R. and C. P. R. are to have a joint station. Eight hundred cluster lights have been added to the street-lighting facilities. — During the past year the Council has laid over twenty-four miles of asphalt pavement and thirteen miles of sewers. — The city council visited the artesian wells in the north-eastern section of the city, to see about a permanent supply of water. — The Dupont estate has been offered to the city for a park; it is well timbered.

PERSONALS.

Chief of Police Mulhern has assumed control of the Vancouver, B. C., police force, in place of R. G. Chamberlain who resigned some time ago to enter the C.P.R.

Mr. Charles Pickard, mayor of Sackville, N.B., for three terms, died recently, aged 52 years.

Mr. Arthur Turner has been appointed Fire Chief of Point Grey, B. C., with a salary of \$150 a month.

Alderman Sams, of Calgary, Alta., has been appointed Commissioner for two years, or until such time as the Council may decide, in case he does not suit it.

Controller A. A. McArthur, of Winnipeg, died recently.

City Engineer Ruttan, of Winnipeg, is retiring from active work in the city engineering department, where he has been chief since 1885.

Mr. G. G. Powell has been appointed Deputy City Engineer of Toronto.

Mr. N. G. Ker, who recently resigned his position as City Engineer of Ottawa, has been appointed by the C. P.R. in connection with Shaughnessy Heights, Vancouver, B.C.

City Treasurer Coady, Toronto, is seriously ill, and the Assistant Treasurer John Patterson has been appointed acting Treasurer.

City Solicitor Theo. A. Hunt, Winnipeg, Man., has just been made a King's Counsel.

CALGARY, ALTA. Eighteen applicants are asking to be engaged as expert by the City. Among them are: Messrs. Rickson A. Outhet, Montreal; Guy Wilfrid Hayler, Winnipeg, Man. and Dunnington-Grubb and Herries, Toronto.

MUNICIPALITY OF BURNABY, B.C.

WATER SUPPLY

CONTRACT No. 20

TENDERS FOR STEEL PIPES

Sealed tenders endorsed "Steel Pipes" will be received by the undersigned not later than 5 p.m. on Monday, March 3rd, 1913, for the supply of about 15 miles of steel pipes, varying in diameter from 3 to 10 inches.

Particulars may be obtained at the office of the Engineers, Cleveland & Cameron, 1001 Rogers Bldg., Vancouver, B.C., on or after Tuesday, February 4th, 1913, from whom copies of the Specifications, Schedule of Quantities and forms of Tender may be obtained on payment of \$20.00, which sum will be refunded on receipt of a bona fide tender and the return of the documents.

Tenders will not be considered unless made out on the forms supplied.

The Council will not be bound to accept the lowest or any tender.

W. GRIFFITHS,
Comptroller.

Edmonds, B.C., January 28th, 1913.

BANK OF MONTREAL

(Established 1817)

INCORPORATED BY ACT OF PARLIAMENT.

CAPITAL Paid-up	\$16,000,000.00
REST	\$16,000,000.00
UNDIVIDED PROFITS	\$802,814.94

HEAD OFFICE—MONTREAL

BOARD OF DIRECTORS:

Rt. Hon. Lord STRATHCONA AND MOUNT ROYAL, G.C.M., G.C.V.O.

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D. FORBES ANGUS, Esq.

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A. MACNEIDER, Chief Inspector and Superintendent of Branches.

C. SWEENEY, Supt. British Columbia Branches.

A. D. BRAITHWAITE, Supt. Ontario Branches.

F. J. COCKBURN, Supt. Quebec Branches.

E. P. WINSLOW, Supt. North West Branches.

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At all Important Cities and Towns in every Province in the Dominion of Canada.

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LONDON, - - - 47 Threadneedle St., E. C.,

SIR FREDERICK WILLIAMS-TAYLOR, Manager.

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NEW YORK, R. Y. HEBDEN, W. A. BOG, and J. T. MOLINEUX, Agents, 64 Wall Street.

CHICAGO, ILL. SPOKANE, WASH.

IN MEXICO:

MEXICO, D. F.

The Canadian Bank of Commerce

PAID-UP CAPITAL - \$15,000,000
REST - - - - - 12,500,000

HEAD OFFICE - TORONTO

BOARD OF DIRECTORS:

Sir Edmund Walker, C.V.O., LL.D., D.C.L., President.

Z. A. Lash, Esq., K.C., LL.D., Vice-President.

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K.C., LL.D.

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William Farwell, Esq., D.C.L.

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ALEXANDER LAIRD - - General Manager

JOHN AIRD, Asst. General Manager

BRANCHES IN EVERY PROVINCE OF CANADA AND IN THE UNITED STATES, MEXICO AND ENGLAND

Montreal Office, H. B. WALKER, Manager

London (England) Office, 2 Lombard Street, E. C.

H. V. F. JONES, Manager

New York Agency, 16 Exchange Place,

WM. GRAY and H. P. SCHELL, Agents

This Bank transacts every description of Banking Business including the issue of Travellers' Cheques, Letters of Credit and Drafts on Foreign Countries, and will negotiate or receive for collection bills on any place where there is a bank or banker.

THE ROYAL BANK OF CANADA

Capital Authorized - - - - -	\$ 25,000,000
Capital Paid up - - - - -	11,560,000
Reserve and Undivided Profits - - - - -	13,000,000
Total Assets - - - - -	180,000,000

Head Office - MONTREAL.

BOARD OF DIRECTORS:

H. S. HOLT, President. E. L. PEASE, Vice-President.

E. F. B. JOHNSTON, K.C., 2nd Vice-President.

Wiley Smith

Hon. D. MacKeen

Jas. Redmond

G. R. Crowe

D. K. Elliott

W. H. Thorne

Hugh Paton

T. J. Drummond

A. E. Dymont

Wm. Robertson

A. J. Brown, K. C.

W. J. Sheppard

C. S. Wilcox

OFFICERS:

E. L. Pease, General Manager

C. E. Neill and F. J. Sherman, Asst. Gen-Managers

W. B. Torrance, Supt. of Branches

Branches in every Province of the DOMINION OF CANADA and in NEWFOUNDLAND; in HAVANA and throughout CUBA, Porto Rico and Dominican Republic; BAHAMAS, Nassau; BARBADOS, Bridgetown; JAMAICA, Kingston; TRINIDAD, Port of Spain and San Fernando; BRITISH HONDURAS, Belize.

LONDON, ENG., OFFICE - Princes St., E. C.

NEW YORK AGENCY - Corner William and Cedar Sts.

SAVINGS DEPARTMENT AT ALL BRANCHES

THE MERCHANTS' BANK

OF CANADA

HEAD OFFICE, - - - - - MONTREAL

Capital paid-up \$6,747,680. Reserve Fund and Undivided Profits \$6,559,478

Pres.: Sir H. MONTAGU ALLAN; V.-P.: K. W. BLACKWELL,

E. F. HEBDEN, General Manager.

LIST OF BRANCHES AND AGENCIES:

Ontario—Acton, Addison, Alvinston, Athens, Belleville, Berlin, Bothwell, Brampton, Brantford, Chatham, Chatsworth, Chesley, Creemore, Delta, Desboro, Eganville, Elgin, Elora, Finch, Fort William, Frankville, Galt, Gananoque, Georgetown, Glencoe, Gore Bay, Granton, Guelph, Hamilton, Hanover, Hespeler, Ingersoll, Kincardine, Kingston, Lancaster, Lansdowne, Leamington, Little Current, London, London South, Lucan, Lyndhurst, Markdale, Meaford, Mildmay, Mitchell, Muirkirk, Napanee, Newbury, Newington, Oakville, Orillia, Ottawa, Owen Sound, Perth, Prescott, Preston, Renfrew, Stratford, St. Eugene, St. George, St. Thomas, Tara, Thamesville, Tilbury, Toronto, (Wellington St., Dundas St., Parliament St., Parkdale), Walkerton, Walkerville, Wallaceburg, Watford, West Lorne, Westport, Wheatley, Williamstown, Yarker.

Quebec—Montreal (Head Office, St. James St., 1255 St. Catherine St. E., 320 St. Catherine St. W., 1330 St. Lawrence Boul., 1866 St. Lawrence Boul., 672 Centre St.), Beauharnois, Bury, Lachine, Quebec, Rigaud, Shawville, Sherbrooke, St. Agathe, St. Jerome, St. Johns, St. Jovite, St. Sauveur.

Manitoba—Austin, Brandon, Carberry, Gladstone, Griswold, Hartney, Macgregor, Morris, Napinka, Neepawa, Oak Lake, Portage la Prairie, Russel, Souris, Sidney, Winnipeg, ditto, Bannerman Ave.

Alberta—Acme, Big Valley, Botha, Brooks, Calgary (do. 2nd Street E), Carstairs, Castor, Coronation, Chauvin, Daysland, Delburne, Donalds, Edgerton, Edmonton (do. Namayo Ave. and Alberta Ave.), Edson, Hanna, Hughenden, Islay, Killam, Lacombe, Leduc, Lethbridge, Manawille, Medicine Hat, Munson, New Norway, Okotoks, Olds, Pincher Station, Rumsey, Redcliff, Red Deer, Ryley, Sedgewick, Strome, Stettler, Tofield, Trochu, Vegreville, Viking, Wainwright, Walsh, Wetaskiwin.

Saskatchewan—Antler, Arcola, Battleford, Carnduff, Frobisher, Gainsborough, Gull Lake, Kisbey, Maple Creek, Melville, Moose Jaw, Orbow, Regina, Saskatoon, Unity, Whitewood.

Nova Scotia—Halifax.

British Columbia—Elko, Chilliwack, Nanaimo, Sidney, New Westminster, Victoria, Vancouver, (do. Hastings St.).

New Brunswick—St. John.

New York Agency: 63 and 65 Wall St.

A general Banking Business transacted. Savings Department at all Branches. Interest paid at best current rates.

The accounts of Municipalities kept and advances made in anticipation of the collection of taxes; also, loans for improvement purposes in anticipation of the issue of debentures.

ECHOES FROM MUNICIPAL FINANCE

WE BUY
AND SELL

MUNICIPAL DEBENTURES

If YOU wish to dis-
pose of this class of
bonds do not fail to
write us.

Brent Noxon & Co.

Canada Life Building,
TORONTO, Ont.

LOANS MADE TO:
BONDS BOUGHT FROM:

Municipalities

A. P. LESPERANCE

MANAGER

City and District Savings Bank
MONTREAL

OTTAWA, ONT. The by-law to raise money for a filtration plant, was defeated; the waterworks by-law was carried.

PETERBOROUGH, ONT. Two by-laws, one to help an industry, the other to provide \$10,000 for an incinerator, were carried.

PORTAGE LA PRAIRIE, MAN. The by-law to raise money for the Portage Development Company, was passed.

PRINCE ALBERT, SASK. The estimate of the probable cost of a street railway consisting of eight miles of track and eight or ten cars to commence with, has been placed at \$275,000.

PRINCE RUPERT, B.C. The by-law to borrow \$1,400,000 to construct a sewer system, was defeated.

REGINA, SASK. About \$3,000,000 worth of debentures will be negotiated during the year, for hospital extensions, waterworks, paving, sidewalks, etc. — The overdraft at the Bank of Montreal in December 1911 was \$1,000,000, while at the end of 1912 it was only \$500,000.

TORONTO'S FINANCES.

Including the \$13,000,000 voted last month by the ratepayers, the City of Toronto has now about \$24,000,000 of debentures. There is, in this the \$3,000,000 which the city raised to sell last year, and it seems that about \$15,000,000 will be necessary this year.

Controller McCarthy suggests that the issue of 15-year debentures would be more profitable than the 36-year or 48-year which has been the rule. In an interview in the Toronto "News" he said: "I intend to see the Mayor and City Treasurer on the matter within the next few days. I think we should get power from the Legislature to issue 15-year debentures. We could sell them at nearly the same rate and save an enormous amount in discount. At present we only net 90 for 4 per cent. bonds yielding 4½; in other words at the present rate we are paying about \$2,000,000 in discount. We save \$1,000,000 on discount by 15-year debentures as we could net 95 for 4 per cent. yielding 4½ per cent., and we could take our chances on money being no dearer in 15 years than now.

"The demand in New York and Chicago is for short term bonds. We will probably have to sell between \$14,000,000 and \$15,000,000 dollars' worth this year. I am strongly of the opinion that urgent efforts should be made early this year to dispose of some of the issues."

Assessment of City.

(Every fifth year, from 1875 to 1900, and annually since then).

Year	Assets.	Tax for City and School Purposes.
	Rate	Mills.
1875..	\$ 46,506,208	14 \$ 651,087.92
1880..	50,166,639	17 852,832.86
1885..	68,957,706	17 1,172,261.00
1890..	136,887,328	14½ 2,084,866.00
1895..	146,382,412	16¼ 2,084,866.00
1900..	124,992,959	19½ 2,378,707.00
1901..	128,313,703	19 2,438,055.00
1902..	133,844,955	19½ 2,609,975.00
1903..	138,588,605	19 2,636,183.00
1904..	142,328,897	19 2,704,239.00
1905..	149,159,206	19 2,824,025.00
1906..	167,411,678	18½ 3,097,115.00
1907..	184,282,035	18½ 3,409,247.00
1908..	206,088,990	18½ 3,812,684.00
1909..	227,800,000	18½ 4,314,500.00
1910..	269,606,219	17½ 4,721,189.00
1911..	306,604,774	18 5,518,886.00
1912..	343,598,145	18½ 6,352,423.00
1913..	423,635,625	18½ 7,835,000.00

Note.—The amount of taxes raised as above set forth may not balance with the amount found by calculating the mill rate on the assessment for any given year. The difference arises from the fact that a portion of the assessment is liable for school rates only.—*Toronto News.*

ROSSER, MAN. The by-law authorizing the borrowing of \$110,000, to be used for the improvement of the road, was passed by a large majority.

BANK OF NOVA SCOTIA.

The 81st annual statement shows profits for the year of \$970,544, which is equal to nearly 20½ per cent. on the paid-up capital of \$4,734,390. This with \$57,848 brought forward, has been used as follows: dividends at the rate of 14 per cent. \$583,538; Pension Fund, \$40,000; written off Bank Premises, \$750,000; added to Reserve Fund, \$200,000; carried forward, \$54,854. The Reserve Fund now stands at \$8,728,140.

HIGHER INTEREST.

A statement of City Treasurer Burns, Calgary, Alta., to the "News-Telegram" of that city, confirms what we said in a recent issue, that the rates of interest demanded for municipal debentures would be higher. Mr. Burns said: "We must have our bonds to carry five per cent. after this if we are to cope with other big cities and centers which are freely borrowing money at that rate with less behind them than we have. The British have had so many agents out here this last year that they know exactly what is doing. Naturally they think that if the banks can get eight per cent. here they don't see why they should not have a share in this state of prosperity which is denoted by the Canadian banker's wonderful measure of business.

"And the city of Calgary should or will have to go slow in her borrowing as if this is not curtailed the taxes are going to be too much for the poor people to pay and it will hurt our individual prosperity."

BANK OF TORONTO.

The 57th annual meeting of the Bank of Toronto shows profits of \$835,787, equal to 16.71 per cent. on the paid-up capital of \$5,000,000. This, with \$391,950 received as premiums for new stock, has been used as follows: dividends of 11 per cent. \$541,229; bonus, 1 per cent. \$50,000; Pension Fund, \$20,000; written off Bank premises, \$100,000; to Best account, \$391,950; carried forward, \$176,578.

BANK AMALGAMATION.

The Home Bank, with head quarters in Toronto, has taken over the newly formed Banque Internationale, whose headquarters are in Montreal. This gives the former about a dozen branches in the Province of Quebec. The position of each bank is:

	Home.	International.
Capital paid-up ..	\$ 1,294,646	\$ 1,359,833
Reserve Fund ..	450,000	.....
Dividend	7 per cent	.....
Total Deposits .	9,315,000	87,000
Total Liabilities.	10,948,698	1,769,026
Total Assets . . .	12,841,220	3,093,889

SASKATOON, SASK. The City Assessor reports that the assessment will reach \$50,000,000.

THE BANK OF OTTAWA

ESTABLISHED 1874

HEAD OFFICE, - OTTAWA

Capital Authorized - \$5,000,000
 Capital Paid Up - - 3,500,000
 Rest - - - - - 3,900,000

The Bank transacts every description of banking business and gives the most careful attention to any business entrusted to it.

BRANCHES AND AGENTS
 THROUGHOUT THE DOMINION

IMPERIAL BANK OF CANADA

Capital Authorized - - - - - \$10,000,000.00
 Capital, paid-up - - - - - 6,425,000.00
 Reserve Fund - - - - - 6,425,000.00

DIRECTORS:

D. E. WILKIE, President, Hon. E. JAFFRAY, Vice-Pres.
 Wm. Ramsay of Bowland, Elias Rogers, J. Kerr Osborne,
 Feleg Howland, Sir Wm. Whyte, Winnipeg; Cawthra
 Mulock, Hon. Richard Turner, Quebec; Wm. Hamilton
 Merritt, M. D., St. Catharines; W. J. Gage.

HEAD OFFICE, - - - - TORONTO.

BRANCHES:

<u>Ontario</u>	Nashville	Quebec	Alberta
Amherstburg	New Liskeard	Montreal	Athabaska Landing
Belwood	Niagara Falls	Quebec	Bank
Bolton	Niagara on the Lake		Calgary
Brantford	North Bay	Manitoba	Edmonton
Caledon East	Ottawa		Red Cliff
Cobalt	Paigraue	Brandon	Rocky Mountain
Cottam	Port Arthur	Portage la Prairie	House
Cochrane	Porcupine	Winnipeg	Lethbridge
Elk Lake	Port Colborne		Red Deer
Essex	Port Robinson		Strathcona
Fergus	Ridgeway	Saskatchewan	Wetaskiwin
Fonthill	Sault Ste. Marie	Balgonie	British Columbia
Fort William	South Porcupine	Broadview	Arrowhead
Galt	South Woodsee	Fort Qu'Appelle	Chase
Hamilton	St. Catharines	Hague	Cranbrook
Harrow	St. Thomas	Moosejaw	Fernie
Humberstone	St. Davids	North Battleford	Golden
Ingersoll	Thessalon	Prince Albert	Kamloops
Jordan	Timming	Regina	Michel
Vineland	Toronto	Rosthern	Nelson
Kenora	Welland	Saskatoon	New Michel
Listowel	Woodstock	Wilkie	Revelstoke
London		Wynyard	Vancouver
Marshville			Victoria
			Wilmer

SAVINGS DEPARTMENT.

Interest allowed on Deposits at all Branches of the Bank throughout the DOMINION OF CANADA.
 Drafts, Money Orders and Letters of Credit Issued Available in Any Part of the World.

Agents in England and Scotland.—Lloyds Bank Limited, and the Commercial Bank of Scotland, Limited, and Branches with whom money may be deposited for transfer by letter or cable to any part of Canada.

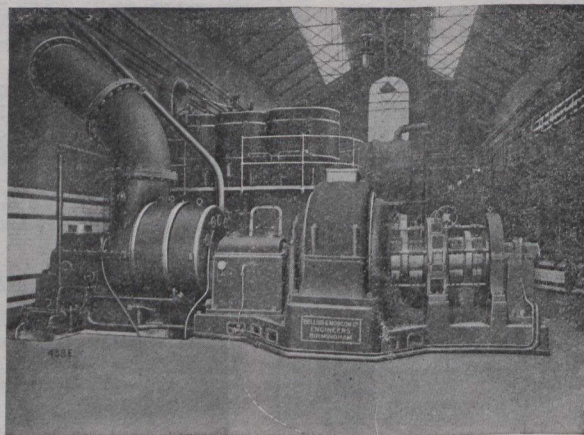
Agents in United States.—New York, Bank of the Manhattan Company; Chicago; First National Bank; San Francisco; Wells, Fargo Nevada National Bank.

Agents in France.—Credit Lyonnais.
 Agents in Germany.—Deutsche Bank.

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ENGINE AND EXHAUST TURBINE
 PLANTS FOR MUNICIPAL USE

INCREASE THE CAPACITY OF YOUR PLANT 50% BY INSTALLING AN EXHAUST TURBINE WITH CONDENSER.



A BELLISS RECIPROCATING ENGINE COMBINED WITH AN EXHAUST TURBINE GIVES UNPARALLELLED ECONOMY.

RECIPROCATOR AND EXHAUST STEAM TURBINE
 DARLINGTON CORPORATION

MANUFACTURED BY MESSRS. BELLISS & MORCOM
 BIRMINGHAM, Eng.

REPRESENTED BY

Laurie & Lamb

211-212 BOARD OF TRADE

MONTREAL

FINANCIAL NOTES

DEALERS IN
HIGH GRADE
BONDS &
DEBENTURES

CORRESPONDENCE
SOLICITED

DOMINION
SECURITIES
CORPORATION, LIMITED

MONTREAL, LONDON, TORONTO
P. Q. ENG. ONT.

ASSINIBOIA, MAN. The by-law for \$50,000 for a bridge across the Assiniboine River at Deer Lodge, was defeated by 42 votes. — The by-law for \$17,000 for gravelling Portage Ave. from St. Charles to Headingly, was carried by a majority of 114.

AMHERSTBURG, ONT., has sold \$10,000 5 per cent. 10-installment debentures to Dominion Securities Corporation.

BERLIN, ONT. The city's gas and electric plants yielded the largest returns and profits this year since the city took over the public utilities in 1902; the gross profit from the gas plant was \$5,720; net profit, \$2,468; the electric department shows a gross profit of \$25,179, and a net profit of \$19,632; with the reduction of the Hydro rates the Commission will make a substantial reduction to the consumers early this year.

BIRCH HILLS, SASK., has sold \$2,000 8 per cent. 15-year debentures to Messrs W. T. McKinnon and Company.

BLENHEIM, ONT. The by-law to raise money as a bonus to a local canning concern to help erect a factory, was passed.

BRAMPTON, ONT., has sold \$43,000 5½ per cent. 20-installment debentures to Messrs. W. A. MacKenzie and Company.

BRANDON, MAN. A by-law authorizing \$79,000 debentures for building purposes in connection with the winter fair and the borrowing of 10,000 from the Imperial Bank, was passed.

BRANTFORD, ONT. By-laws to raise \$50,000 for a waterworks improvement, and \$15,000 for flood prevention, were carried.

BRIGHTON, ONT. The by-law to raise \$50,000 for a waterworks system was carried.

BURNABY, B.C. The estimates for school expenditures have been compiled, and reach \$100,850.

CALGARY, ALTA. By-laws authorizing an expenditure of \$700,000 for fire station sites, additional fire equipment, street railway equipment, and the extension of sewers and municipal plant, were carried. — The municipal street railway has made a profit of about \$100,000; out of which there has been an expenditure of \$56,661.32 on cars and equipment. — The tax

rate will be increased, perhaps to 20 mills, owing to the city being \$150,000 behind on 1912 work.

CAMROSE, ALTA. The by-law to raise \$20,000 for storm sewers, drainage and the extension of electric light was carried.

CAYUGA, ONT. The by-law to raise money to purchase a building for a factory for a concern manufacturing rubber goods, was passed.

CHATHAM, ONT. The by-law to provide for the raising of funds to build three bridges, was passed.

CONNAUGHT, SASK. The council recently passed the by-law to raise \$15,000 by debentures, for drainage purposes.

CREEMORE, ONT. The by-law to raise \$12,000 for a new town hall, was defeated.

EDMONTON, ALTA. Plans are being completed by Police Chief Carpenter for the establishment of a pension fund for the police; the sum of \$10,000 has been put in the city estimates this year as a nucleus for the fund. — Contracts for trunk sewers have been called for to cost about a million and a half; these contracts represent about four times the 1912 contracts; it will be all tunnel work. — The city will spend about \$11,000,000 on permanent improvements and betterments. — There is a deficit of \$1,250,000 in the municipal account books, which includes an overdraft of \$250,000 and short term notes for \$1,000,000 held by the bank for unsecured debentures. — The total debt is \$12,000,000 including utilities and local improvements. — The assessment is \$110,000,000.

FORT WILLIAM, ONT. The total gross assessment for 1912 amounted to \$39,053,984; the increase being \$15,725,371.

GALT, ONT. The by-law for spending \$15,000 on waterworks extensions, was carried.

GUELPH, ONT. Two money by-laws were defeated; they were, \$28,000 for the General Hospital, and \$10,000 for a new fire hall.

HOLLAND LANDING, ONT. The by-law to issue \$1,400 debentures to complete the public school, was passed.

HUMBOLDT, SASK. The by-laws to issue debentures to cover the cost of building a fire hall and cement sidewalks, were passed.

KELOWNA, B.C. A by-law to raise

WOOD, GUNDY & Co.
6 KING ST. WEST, TORONTO

Purchasers of

MUNICIPAL
DEBENTURES

We especially invite correspondence.

\$40,000 for the purpose of completing the sewerage system, was passed.

KINGSTON, ONT. The by-law to raise \$7,800 for a motor fire truck, was defeated.

LINDSAY, ONT. The by-law to guarantee bonds to the extent of \$30,000 to the Fisher Furniture Company was carried.

LETHBRIDGE, ALTA. The city has a deficit of \$60,000, part of which is due from the \$40,000 carried over from the previous year; the city handled \$1,379,875.28 during the year.

MONTREAL, QUE. The year 1912 has been the most prosperous in the history of the city owing to the enormous real estate deals, reaching approximately \$170,000,000; property in the central district reached \$74 per square foot; three farms near the east end of the city that were sold for \$50,000 a few years ago, were sold for \$1,500,000.

NANAIMO, B.C. The by-law to raise \$5,000 as a grant to the local Agricultural Society for improvements to buildings, was passed.

NEWMARKET, ONT. The by-law guaranteeing \$20,000 bonds of a manufacturing concern, was carried.

NIAGARA FALLS, ONT. The by-law to raise \$3,900 for improvements to the fire department, was carried; but the industrial by-laws were defeated.

NORTH VANCOUVER, B.C. By-laws involving over half a million dollars were passed; these includes:— three guarantees for debentures for the North Vancouver City Ferries Limited; a loan of \$150,000 to purchase stock in the Burrard Inlet Tunnel and Bridge Company; \$75,000 for school purposes.

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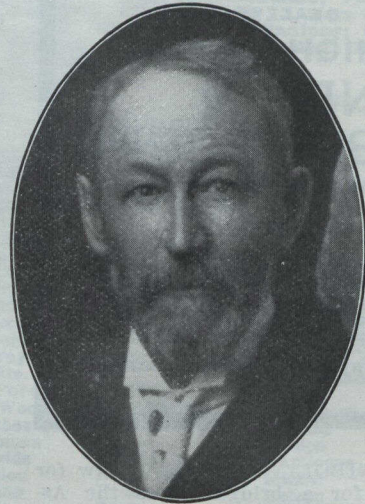
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Engineers—And

William Johnston Sproule



It is with great regret that we record the death of Mr. William Johnston Sproule, who, for the past thirty five years has been on the Engineering staff of the Montreal Harbour Commission, and who was for many years an active member of the Council of the Canadian Society of Civil Engineers.

Mr. Sproule was born in Schomberg, Ont., 62 years ago, his parents being from the north of Ireland. After leaving the country school, he attended the Normal School, Toronto and from there came to McGill University where he graduated as B.Sc. in 1877, being Valedictorian and Gold Medallist of that year. He subsequently obtained the Degree of Master of Engineering, M.E. (McGill), and was also a Dominion and Provincial Land Surveyor.

On leaving McGill, he took up railroad work, and was engaged on the Pittsburg & Pennsylvania Railways, and also assisted in laying out part of the City of Winnipeg.

Thirty five years ago, he joined the Engineering staff of the Montreal Harbour Commission, under Mr. John Kennedy, C. E., Chief Engineer, where he rose to be Assistant Chief Engineer, a position he occupied for many years, only retiring on a pension some three years ago. In this position he had full responsibility when Mr. Kennedy was absent. He was also in charge of the ship channel until the Government took it over in 1888. When the new wharves were built he drafted the plans for the freight sheds on them. And was in charge of the Dyke for flood prevention, which was originally of earth, now replaced by stone.

Among other important positions held by Mr. Sproule was that of expert in a dispute between the Canadian Pacific Railway and some contractors; and he was also a member of the Montreal Dry Dock Commission.

Mr. Sproule served as both Councillor and Mayor of the Town of St. Lambert, Que., where he had a residence and did good and permanent work there, especially in supervising the waterworks.

In 1884, he married Miss Marion Augusta, daughter of the late John Thompson, of Montreal and St. Lambert, who survives him. He leaves three sons and daughters, of whom Mr. Gordon St. George Sproule, M.Sc., (in the Testing laboratory of the C. P. Ry.), and Mr. Stanley M. Sproule, B.A.; B. Arch., are the elder.

what they are doing

Incinerator at Moose Jaw, Sask.

OFFICIAL TESTS

Date of test.....	25th & 26th July.	31st July
Duration of test.....	24 hours	8 hours.
Grate area.....	90 sq. ft..	90 sq. feet
Heating surface of boiler.....	1700 sq. ft.	1700 sq. ft.
Ratio of heating surface of boiler to grate area.....	18.8:1	18.4:1
Average steam pressure.....	125 lbs. sq. in.	134.4 lbs. sq.in.
Average temperature of feed water.....	45° F.	45° F.
Average temperature of combustion chamber.....	1750° F.	1822° F
Highest temperature of combustion chamber.....	2000° F.	2060° F.
Lowest temperature of combustion chamber.....	1400° F.	1600° F.
Weight of refuse burned.....	53.51 tons	14.16 tons
Weight of residual clinker.....	11.625 tons	2.85 tons
Percentage of clinker.....	21.73%	20.1%
Refuse burned per hour.....	2.23 tons.....	1.72 tons.
Refuse burned per square foot grate area (per hour).....	49.6 lbs.	39.3 lbs.
Total weight of Water fed to boiler.....	*59,700 lbs.	31,845 lbs.
Equivalent weight of water from and at 212° F. fed to boiler.....	*72,655 lbs.	42,562 lbs.
Water evaporated per hour...*	2,487 lbs.	3,891 lbs.
Equivalent water evaporated from and at 212° F. per hour*	3,027 lbs.	5,445 lbs.
Horse Power developed (3/4 lbs. water evaporated per hour into Steam from and at 212° F. 1 Horse Power.)...	*97.6 H.P.	157.8 H.P.
Water evaporated per lb. of refuse.....	*.56 lbs.	1.125 lbs.
Water evaporated from and at 212° F. per lb. of refuse....*	.68 lbs.	1.368 lbs.
Cost per H.P. per hour.....*	1.154 cents	.77 cents.
Cost per ton of refuse destroyed.....	51.8 cents.....	68.8 cents.

Actual amount of steam available for power per lb. of refuse.....*.44 lbs. .97 lbs.

Analysis of gases.....CO₂ CO O N CO₂ CO O N
(Average percentages) . . 8.4 .1 3.5 86.2 10.2 1.6 3.4 8.66

*The low evaporation per pound of refuse burned is accounted for by the fact that the safety valves were unable to carry away all the steam generated. The door of the first compartment of the boiler being kept open the greater portion of the first test, allowing cold air to rush in and cool down the gases. During this test the steam rose considerably above blowing off pressure, so this was done to avoid any danger caused by an excess pressure being generated on the boiler. Provision was made to carry away the excess steam generated and a second test was carried out to determine the evaporation per pound of refuse.

(See page 54 for description of plant).

The Town of Oshawa, Ont., is benefitting in a very valuable way through the generosity of one of its prominent citizens. The Board of the Hospital were delighted to receive the offer of a donation of \$10,000 from Mr. and Mrs. George H. Pedlar, to be used in the construction of a surgical wing, in connection with the proposed addition to the present Hospital.

Needless to say the Board promptly accepted this generous offer, and expressed the thanks of the whole town for it.

The new wing is given by Mr. and Mrs. Pedlar as a memorial to their son, the late George H. Pedlar, Jr., after consultation with Dr. Kaiser and the other medical men of the town, as to what would best meet the most urgent needs.

It is pleasant to chronicle the practical sympathy of one of the large employers of labour in a town with the needs of his fellow citizens' and Mr. and Mrs. Pedlar will derive great satisfaction from their generosity.

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Re-Inforced Concrete

Plain vs patent bars

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Owing to rapid evolution in the science of concrete engineering, and also to the somewhat different theories advocated by prominent and qualified men in this line of work, the average man to-day who, finding himself in a position of professional responsibility, also finds himself in a dilemma as to whether he should adhere to the theory of a certain renowned engineer, or should he plan his work on the force of his own engineering and experience.

The latter method most undoubtedly should be adopted. There cannot be any fixed formula connected with concrete construction as of the efficiency or deficiency of concrete is governed to so great an extent by atmospheric conditions, temperature, etc., that nothing short of a solid study of the peculiarities of cement, stone, sand, and existing climatic conditions will reveal in the true light the course which the engineer ought to pursue in order to obtain the best results.

Physical tests to determine the tensile or compressive strength of materials, though generally considered conclusive, have in many cases proved to be deceptive; some stone, for instance, having been exposed to rain and frost will retain the moisture absorbed and show an altogether different test to that of a less porous specimen, although a detection of any difference between the two without the aid of chemicals is practically impossible. In short it might be said of physical tests that they are valuable chiefly in comparing the strength of two or more different kinds of stone, and then only if the specimens are found to be in precisely the same condition when tested.

In the case of re-enforced concrete we find at the front a yet more difficult problem to solve. Not only does it become necessary to determine the ultimate compressive strength of the concrete and the ultimate tension in the steel, but also to determine the relative stress carried by both, and to govern the proportions and quality of the materials in the concrete to best coincide with the elastic test of the steel.

The selection of the percentage of steel should be one of, if not the most important, factors in re-enforced concrete construction. Durability, strength safety, and sometimes appearance must be taken into consideration at a minimum cost, but if the percentage is used which will develop the maximum allowed strength in both the concrete and the steel, three of the above requirements have been fulfilled, if not the fourth which in a great many cases is not called for.

The question as to the slipping of the steel in the concrete has become universal. The use of deformed bars advocated by so many engineers to-day without a doubt has in the majority of cases shown satisfactory results, but taking into consideration the vital question of perfect construction, or durability, etc., at minimum cost, deformed steel will cost more but invariably shows any better results. A plain simple beam resting on two end

what they are doing

supports has neither tension nor compression in the fibres at the end of the beam; the horizontal tension and compression found at the centre of the beam entirely disappear by the time the end of the beam is reached. This, of course, is done by transferring the tensile stress in the steel at the bottom of the beam to the compressive fibres in the top and this by means of the intermediate concrete. Therefore it follows, that for this reason the cement or concrete used must be of a proportion and strength to corroborate with the elastic test of the steel, and yet give sufficient adhesion to prevent slipping.

Going further into the question of "re-enforced" with plain bars, it might be advisable to make an example to prove the above statements.

A bar, one inch square in the middle of a beam will be, practically speaking, under a tension of 15,000 pounds to the square inch the bar being one inch square, the actual tension is 15,000 pounds. At a point one inch beyond the centre the movement in the beam is reduced to an extent that the tension in the bar is 14,900 pounds; this means that 100 pounds pull has been taken up by the concrete. The surface for the length of one inch equals 4 square inches, which shows an adhesion of 25 lbs. per sq. inch between the steel and the concrete, and this figured out for the total length of the bar would tend to prove that the plain bar has even a surplus over the maximum coefficient of safety. The adhesion between plain bars and concrete, when the work is properly executed, is considerably greater than this, consequently there is little question as to the bond in, or near the centre of the beam, although it is obvious that the adhesion will decrease as it nears the end of the beam. Even taking this into consideration for all ordinary purposes, the plain bar is "good".

It is possible, however, that long continued vibration such as is experienced in many kinds of factories will lessen the adhesion on plain bars. In this case the deformed steel might be used to better advantage, but it is a question if any better results will be obtained. It is very evident that the deformed bar will not pull through so easily, but if the adhesion is gone, the re-enforcing qualities do not exist any longer, no matter what the shape of the steel may be.

Microscopical examination of the surface of steel and concrete which has been moulded around it, shows that the adhesion chiefly depends on the roughness or porous nature of the steel, the cement entering into the indentations of the metal and thus forming a bond.

There is no intention whatever to argue the merits of any patent bar and it is possible that time will reveal their merits. Also positive information is lacking as to the permanency of adhesion of either, owing to the fact that there are comparatively few re-enforced structures which have been built for a very long period of years. In any case, whichever method is used, the applicability of all formulae to determine the strength of a structure is dependent, not only on the quality of the steel and the concrete, but also on a thorough apprehension of the behavior of both when in bond. If this is known with other minor details, it must follow that the structure is perfect, or if not perfect, at least fulfils the requirements called for at the lowest possible cost.

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what they are doing

premature and ill-considered schemes, and leave a multitude of evils in their wake.

There are two great problems involved in town planning that do not fall within the province of the engineer, the architect, or other constructive agents, but which must be more clearly solved before we can expect really effective accomplishment in the practical and economic planning and replanning of towns and cities. These are the problems of legislation and finance, and are truly fundamental as all accomplishment is predicated upon them. More failures to produce practical results in modern economic town planning are occasioned by restrictive laws and limited financial resources than by any other influences. There are, perhaps, a hundred towns and cities that have prepared well-considered and workable plans based upon careful investigation of existing conditions and as intelligent a forecast of future needs as it is possible to make, and covering every class of improvement that contributes to communal welfare, but with the completion of the plans the work has stopped or is being carried on fitfully and precariously because the legislator and the financier are unable or unwilling to provide the legal and financial means necessary to the full fruition of the projects of the planners. And here again new commonwealths and new municipalities should so frame their legislative acts that the larger and more vital interests of the people shall be paramount to the rights and privileges of the individual so far as this may be accomplished without injustice or oppression.

The cities of Germany have progressed further than any others in the solution of these problems, having been driven to the necessity of taking greater care of the health of their working people in order to build up the industries and develop the resources of the Fatherland. They not only buy and sell land as a part of their municipal activities, thereby obtaining the benefit of increased values, but they take a percentage of the natural and legitimate increase of the value of private property, as represented by actual sales, for public use, while, at the same time, they take measures to protect and maintain the stability of values.

In the first small beginning of a town its citizens do not usually look far into the future; they are too deeply immersed in their own individual affairs and in the building up of industry and trade to give much attention to the manner of growth of the town itself; the country is all about them and so close that they do not feel the need of taking and keeping a part of it for the public use against the time when the gradual widening of their city boundaries shall push the fields and forests further and further away from them; the need of parks and open spaces is not felt until the problems of obtaining them becomes a difficult and costly one. No call is stronger to-day in many of our large cities than that for parks and open public places for the health and enjoyment of the people; indeed, it has been the insistent demand for such places that has given what we call modern city planning its greatest impetus. The park has become almost as fixed and necessary as the street, and money spent upon a well conceived system not only gives large returns in health and pleasure but adds to the stability and value of property.

To be continued



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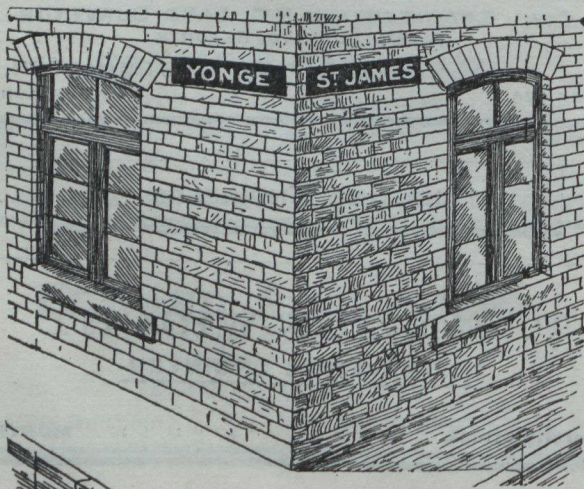
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