

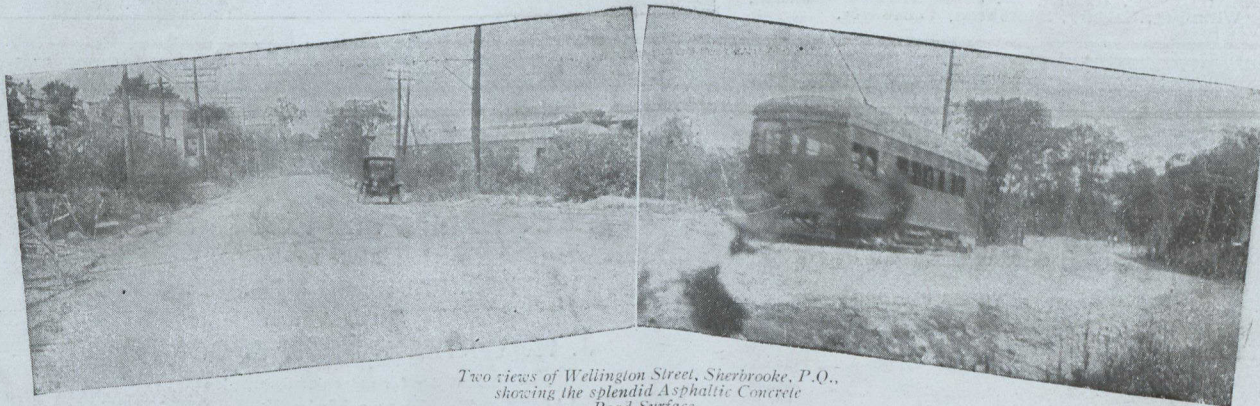
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CANADIAN MUNICIPAL JOURNAL

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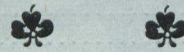
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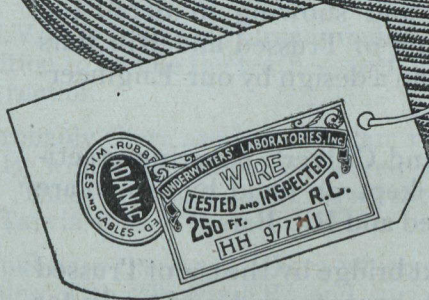
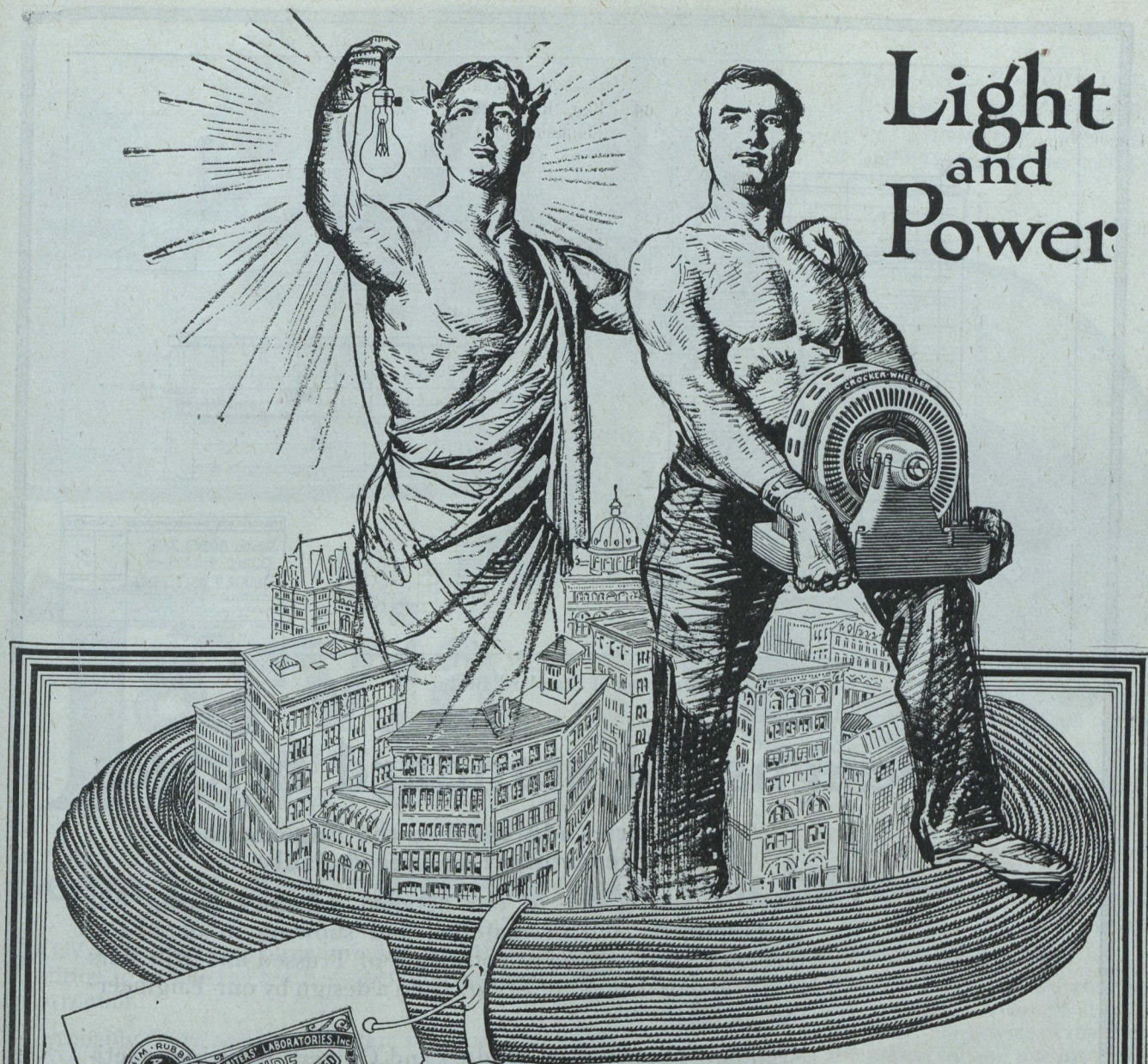
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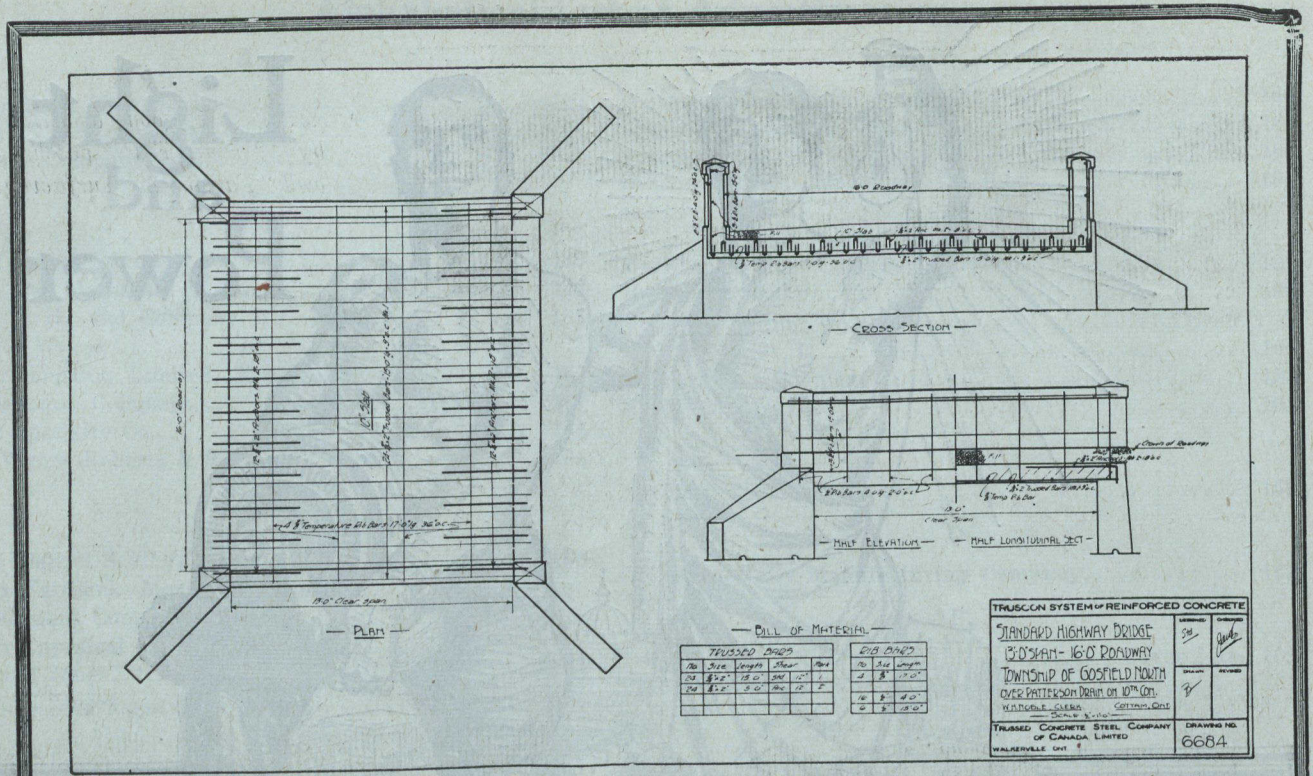
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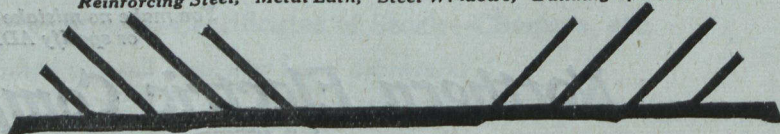
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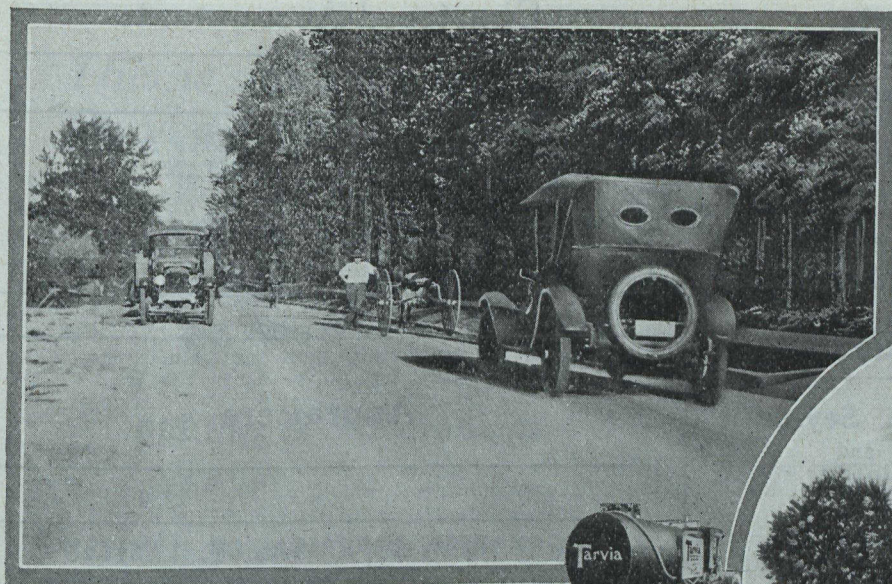


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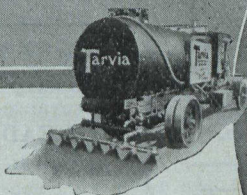
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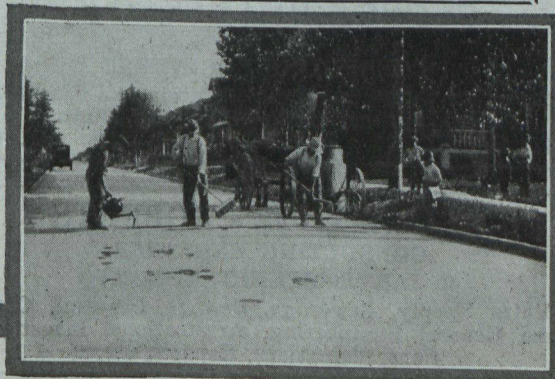
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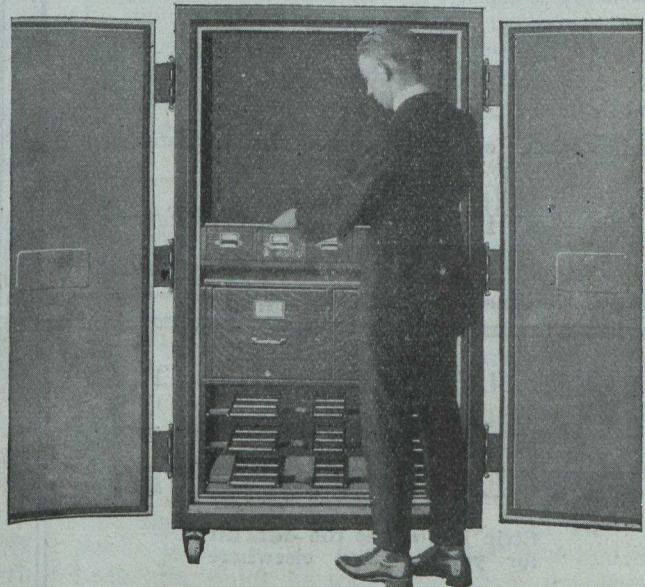
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FREDERICK WRIGHT, Editor

VOL. XVII.

MONTREAL, JUNE, 1921

NO. 6

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The City and the Natural Resources of Canada

The cities and towns of New Brunswick must be extremely modest. In an otherwise excellent brochure of ninety-two pages on the province (published by the Natural Resources Intelligence Branch of the Dept. of the Interior) four pages are given to a description of the eighteen cities and towns. Included in these four pages are two illustrations which take up about a page, leaving three pages of letter press to describe the urban centres, in which the larger part of the province's population get their living. According to the title page the department had the assistance of Federal officers, Provincial officers, Tourist associations, Boards of Trade and local business firms, so it cannot be for lack of assistance that the information is so meagre regarding the cities and towns. It looks rather like the case of the elephant after much labor bringing forth a mouse.

The objection we have to this kind of treatment of the urban life of the Dominion in the Federal government publications — the brochure on New Brunswick is typical of the other provinces — is that a wrong conception is given of the relative importance of town and country in the development of the resources of the country.

Those who know Canada only from the official publications have a hazy idea that her wonderful resources are developed in the country places, that her cities and towns are more adjuncts, their people occupied in industries not necessarily indigenous to the country, whereas as a matter of fact the industrial centres of Canada — which mean the cities and the towns — can only be described as the centralized human energy that is developing the natural re-

sources of the Dominion. The country places represent the development of one industry only—that of agriculture. All her other basic industries must in their final stages be developed at points where, with the combination of the human element and transportation facilities, the industries can be commercialized, so that the city or town is just as important to the development of the natural resources of Canada as the districts in which the resources are actually located, consequently no description of any of the provinces is complete with fuller descriptions of the urban centres.

MUNICIPAL SERVICE.

Over 50,000 men and women are giving the whole or part of their time to the government and administration of municipal Canada. Out of this large army not five per cent receive any remuneration, and even those who do receive a fee barely cover expenses with it, yet there is no body of public servants that receive so little consideration from the press and the public.

To carry out the duties of a mayor or alderman requires not only time but concentration of thought and energy to such an extent that the holder of public office often unfits himself for his own business, and which he sometimes gives up altogether so that he can better serve the community. We sometimes wonder what is the law of compensation for such sacrifice on the altar of public opinion — for sacrifice it is — and we have come to the conclusion that with the average mayor and alderman the great incentive is personal satisfaction in being able to serve his neighbors.

Community Music

It has been said that with the exception of the canned variety there is no music in Canada; it being looked upon as an idle diversion by those who have the power to provide the means for its encouragement and development. Such a state of mind cannot be condemned too strongly for good music has a stabilizing influence on the mentality of the people that nothing else has; it breaks through the grayness of the ordinary life of man, giving him a glimpse of beauty and hope for the future; it uplifts him to a fuller appreciation of the ennobling things of life and leads him to a better conception of mankind. The pity is that in Canada only the comparative wealthy can enjoy the best music, the masses being barred on account of the high prices of admittance to the opera or concert. In Europe—including Great Britain—and in many of the cities in the

United States the municipal authorities, appreciating the value of good music on the minds of the people, have for years past provided out of taxes cheap concerts during the winter months and free band concerts during the summer months. And why not Canada? It is true a small number of our larger cities provide band concerts in the local parks, but the majority of councils have done nothing, many of them taking the stand that it is outside their province to provide the means of cheap social enjoyment out of the taxes. To those jealous custodians of the local public purse we would suggest that one of the fundamentals of municipal government is the social welfare of the community; and we don't know of any better means of advancing the social welfare than through good music.

"The City of Law and Order"

The anniversary of the founding of the City of Rome was celebrated this year in a remarkable manner. From all parts of Italy came large delegations for the purpose of pledging themselves in the Eternal City for law and order as against bolshevism, the demonstration itself taking place in the square in front of the City Hall. During the 2,674 years of its existence—Rome was founded 750 years before the Christian era began—this wonderful old city on the Tiber has met many vicissitudes, but such was the solidarity of its foundations, many of which are extant to-day, and its early system of government that time and war and pestilence have not been able to efface either. The City of Rome at its best, that is, in its early days as a republic, built up such a system of municipal government that has never been equalled since—inasmuch as it was almost a perfect balance between privilege and responsibility. Its laws, which were stern but just, were strictly enforced, but such was the civic spirit of the Romans in those early days that each citizen constituted him-

self a guardian of the law. To lose caste as a citizen was the greatest disgrace that could befall a Roman, and to become a member of the council or senate the greatest honor. So potent did this spirit of citizenship become, that even after 750 years of government, and in spite of three or four centuries of degeneracy brought about by usurpation and maladministration on the part of those in authority, it was no mean boast to be a citizen of Rome. "I am a citizen of no mean city" proclaimed the great apostle St. Paul when claiming the protection of the courts of Rome.

To-day, though it has lost the great position as the centre of civilization, the City of Rome has much to be proud of, not the least being that with very few changes the city laws of the old Romans are still in the local statute books, so that it was very fitting that the determination of the people of Italy to see that "law and order" be carried out should be demonstrated in that city where the great Roman laws were first enacted.

League of Nations Society

On May 31 there was formed in Ottawa a Canadian League of Nations Society—the purpose being to educate the "man in the street" to the principles underlying the League of Nations compact, the said principles being based on the brotherhood of man. Much has been written and spoken on the subject by all classes of men and women and while not all agree regarding its practicability none question its desirability.

To one who in the past has had an opportunity of studying international relations at first hand, at a time when diplomacy was little better than a game of poker, when every nation was everlastingly trying to get the better of its neighbor, or rather when all foreign representatives were pitting their wits to beat one another, the introduction of the League of Nations into the Versailles treaty seemed like forcing honesty on tricksters. But since forty-seven nations, representing three-quarters of the world's population have accepted its provisions, no doubt because they are all sick of war, it begins to look as though a new spirit has set in—that the ethics of

national relations. The question is will the League of Nations be a success? We believe it will provide the people in each country will back it up. Its success means the elimination of war — the crudest method of settling disputes — for arbitration will take its place.

Canada is a member of the League of Nations and as such has a voice in the peace of the world, but the strength of her voice depends on how solid her people are behind her representatives. It is to secure this solidarity that we understand the League of Nations Society has been formed.

If we have any criticisms to offer regarding the new society it is in its executive; not in the personnel itself, but in the limited number of interests represented. Outside the one labor representative it can hardly be said that the members of the board are in a position to get next to the people, and as Sir Robert Borden said at the inauguration meeting, "Only the whole people could make it—the League of Nations idea—a success."

Interfering With Municipal Rights

The Ontario Legislature in its recent legislation concerning the control of the natural gas of the province has taken a position that is in direct contravention to the spirit of British government, which above all things recognizes the sacredness of private property and the rights of the community to control purely local affairs.

Our contemporary, the Ontario "Municipal World," in a recent issue states the case very clearly, as follows:—

The Act of the Legislature concerning natural gas passed at the last session of the House, is the most drastic piece of legislation that has yet come to our attention.

Under it, the Minister of Mines and the Drainage Referee have power to vary the terms of any agreement made or franchise granted with reference to natural gas and gives the Referee power to fix the rates which shall be paid for gas, notwithstanding any agreement that may have been made to furnish gas at any fixed price by the company. It also enables the Minister to cut off the supply of gas to any customers or to any locality.

Under it, any person boring or prospecting for natural gas must first obtain a license from the Government, even if he is operating on his own land for his own use. Power is also given to authorize any person to enter upon any private or public property and operate natural gas works, and to take and use any private property for that purpose.

In short, it enables the abrogation of all contracts entered into with reference to natural gas by any person, corporation,

or municipality, and authorizes the confiscation of private property to be taken or used for natural gas purposes.

The question is what are the Ontario municipalities going to do under the circumstances. According to our contemporary the Ontario Legislature has assumed a prerogative that was never intended in the British North American Act, in placing in the hands of a public servant a power to override all local authority or rights, irrespective of any previous arrangements made in the interest of any community. In other words the Provincial Government, through the Minister of Mines and the Drainage Referee, can not only at any time break any agreement a municipality has made for the supply of natural gas, but can authorize a private individual or company to actually take the place of the municipal authorities for the supply of the gas. This is surely an usurpation of authority, which cannot be resented too quickly by the municipal councils of Ontario.

Undoubtedly the provincial authorities have certain rights, including the general supervision of the municipalities and their administration, but no provincial authority has any moral right to enact legislation—such as the Ontario Natural Gas Act—that will interfere with the good government of any municipality. Whether the Act was drafted to intentionally slight the municipal authorities we do not know but under any circumstances a strong protest should be made by every municipal council in the province.

THE OTTAWA CONVENTION.

Though the programme is not yet complete there is every evidence that the Ottawa Convention of the Union of Canadian Municipalities to be held in July will be one of the most attractive in the Union's history. Outside the official programme Mayor Plant and his colleagues on the Council are determined that the delegates will feel that the City of Ottawa is the one place worth while for a visit. Of course, Ottawa is one of the most beautiful cities on this continent, but what an added pleasure it is to be personally conducted to the many places of interest that abound throughout the city, when one is made to feel at home at a little luncheon or is given an opportunity of listening to Canada's best speakers at a banquet. It is a delightful break in the monotony of official routine, and this the Ottawa municipal authorities know, hence their going out of their way to make the convention a success in-so far as entertaining the guests.

HOUSING FINANCE IN ENGLAND.

Up to the end of March of this year the municipal authorities of England had raised £59,995,657 (approximately \$299,978,285) towards assisted housing schemes. This huge sum is hardly conceivable in Canada but such is the need for dwellings in the Old Country and the determination of the municipal authorities to supply that need, that even this sum does not fully represent what will be raised and spent in housing before the completion of the scheme.

COMMISSIONER R. A. ROSS, D.Sc.

Municipal men throughout Canada will join the journal in congratulating Commissioner R. A. Ross, of Montreal, who recently had the degree of Doctor of Science conferred upon him by the University of Toronto. Mr. Ross for four years has been serving as one of the five commissioners of the City of Montreal, during which period he has given excellent service in a very trying position, inasmuch as the administration commission of Montreal was appointed by the Provincial Government, to straighten out a situation that had become almost chaotic by reason of the rapidly changing systems of government during the previous six years. Undoubtedly the commission has done much good work in the straightening out of Montreal's affairs and when it goes out of existence in October the members will have the pleasure of feeling that their efforts have been appreciated by the citizens, and none more so than Commissioner Ross.

PRINCE ELECTED PRESIDENT OF GOOD ROADS ASSOCIATION OF GREAT BRITAIN.

Prince Arthur of Connaught, K.G., G.C.V.O., was unanimously re-elected president of the Roads Improvement Association (Incorporated) for the ensuing year at their annual general meeting at the Surveyors' Institution.

SINGLE TAX IN BRITISH COLUMBIA

Our British Columbia correspondent draws our attention to an editorial that recently appeared in the Vancouver Daily World dealing with the Single Tax and its working in certain municipalities in our far western province. The editorial which is published below claims that the single or land tax system has proved a failure, at least so far as Greater Vancouver is concerned. And we might say that Vancouver's experience is not the only one that has proved the impracticability of limiting the taxes to land. Theoretically single tax is an equitable means of raising public income, provided the speculative element is cut out of real estate. But this is impossible, or even undesirable in a new country like Canada, so it follows that any municipality depending on its income from a single commodity like land, whose values are fluctuating from one extreme to the other every day, is bound to have much difficulty in arranging its finances. In the west generally, the effect of the single tax was that the municipal authorities were soon left with unproductive building lots on their hands, which could not even be sold, so that its advocates can hardly quote Canada as a successful example of the system. Of course this does not mean that the taxing of real estate should be cut down so fine that it has to be made up by taxing improved property. There is a medium in all things, and the system, now usually adopted in western municipal Canada, of the taxes on improved property being, in proportion to actual values, much less than on real estate, is sane administration. This is the system that is also in actual practice in eastern Canada, and so the British principle of compromise works out well every time.

Our correspondent's letter reads as follows:—

On March 30th last the Vancouver Daily World published an editorial definitely admitting that the single tax in Vancouver had failed. This is the more worthy of note as the Daily World was for year the champion of the single tax.

The editorial says that improvements were exempted from taxation in 1910 because buildings were badly needed, and this action undoubtedly stimulated to some extent their erection. But the city soon became over-built and an era of lavish expenditure on civic improvements also set in. "It was then that Vancouver obtained a large part of its mileage of paved streets and concrete sidewalks, paved streets which to-day carry little traffic but that of local tradesmen's delivery carts and concrete sidewalks now more weather beaten than foot worn."

In 1912 the building jobs were finished, and the people employed in building went away, the process continuing till the city had lost 25 per cent of its population, and two-thirds of the property owners had ceased to pay their taxes.

During the war came the orders for munitions and ships. The city began to fill up again, rents rose and passed the highest records of the halcyon days of 1911 and 1912. But though rents advanced and land became saleable again it did not return to anything like pre-war values. By 1918 it had been established that to increase the taxes on land simply meant so much more unimproved land being thrown back on the city's hands. That year improvements were taxed at the rate of 25 per cent. and they are now taxed at the rate of 50 per cent.

The above remarks refer to the city of Vancouver. Greater Vancouver, without the city, has an equal population and more than ten times the area. It includes two cities and six municipalities. South Vancouver, Richmond and to some extent New Westminster are now taxing improvements, while the other city and municipalities of Greater Vancouver still adhere to the single tax. A comparison of their tax rates for the present and preceding three years is instructive.

South Vancouver, having become unable to pay its debts as a single tax municipality began to tax improvements in 1918 at the rate of 33 1-3 per cent. This was increased in 1920 to 45 per cent, and this year it is 50 per cent, which is the full limit allowed by the provincial law outside Vancouver. South Vancouver has maintained its rate of 41.4 mills unaltered since 1917, paid off part of its debt, and regained its credit.

The Royal City of New Westminster still adheres to the single tax, except in respect of improvements on industrial sites owned by the municipality and leased to private owners. These leased properties are taxed 50 per cent on improvements and this special tax brings in about \$40,000 a year to the city treasury. The rate in New Westminster in 1918 was 32 mills. It is now 36 mills.

Richmond, which taxes improvements at the rate of 50 per cent has increased the rate from 18 to 22 mills in the four years. It has a population of about 4,000 in an area of 30,000 acres.

West Vancouver is a single tax district with 2,000 population and about 24,000 acres. In West Vancouver the tax has risen from 26 mills to 30 mills in the same period.

Burnaby, Point Grey, North Vancouver City and North Vancouver municipality all at present maintain the single tax. The tax rate in all these has increased considerably in the last four years. Burnaby has raised the rate from 24 to 33.50 mills, Point Grey and North Vancouver each from 28 to 36 mills, North Vancouver municipality from 20.6 to 31 mills. That is to say the tax rate has increased twice as quickly in the municipalities and city which have maintained the single tax.

For this reason, and because land values are rising little, if at all, even where population is rapidly increasing, there is developing in the single tax districts a strong feeling against continuing to exempt improvements."

TOWN PLANNING AND MUNICIPAL ENGINEERS.

Waves of enthusiasm in connection with town planning and housing have done a great deal of good by directing the attention of municipal engineers, surveyors, architects, builders and others, to the various problems connected with the proper planning and development of towns, and much has been done by conferences and lectures to broaden the view of public representatives on councils and committees.

The real spadework of town development will no doubt continue to devolve on the municipal engineer, whose duty it generally is to advise from day to day and to deal with the engineering problems which lie at the root of the satisfactory planning and replanning of town areas, and who usually has the intimate knowledge of all local matters likely to affect the proper treatment of the area coming under his control.—John Brodie, City Engineer of Liverpool, President of the Institution of Civil Engineers (England).

U. C. M. CONVENTION

Reports received from all parts of the Dominion indicate greater interest than ever in the Convention to be held this year at Ottawa. Points as widely separated as Victoria, B.C., and Halifax, N.S., have already signified their intention of being represented, to say nothing of the live cities and towns in between. Among the interesting subjects upon which the delegates will be addressed are "First Aid from a Municipal Standpoint," by Col. Hodgetts, M.D., C.M.G., Canadian Director-General of the St. Johns Ambulance Association;—"Recent developments in Municipal Government in the United States," by Mr. H. W. Dodds, Secretary of the National Municipal League, New York; "Municipal Borrowings," by Mr. Bayne, Commissioner Local Government Board of Province of Saskatchewan. Other speakers are Mr. Clinton Rogers Woodruff, President of the Civil Service Commission, Philadelphia; Mr. E. R. Decary, Chairman Administrative Commission of Montreal; Mr. Tom Moore, President Trades and Labor Congress; Dr. Horace L. Brittain, Director Citizens' Research Institute of Canada, and others. The presence of municipal experts from the United States will be an interesting feature and the international flavor of the gathering will be further strengthened by several mayors of leading United States cities who are to attend the dinner to be given the delegates by the City of Ottawa on the evening of Thursday, the 28th July. For the benefit of the large number of visitor expected a drive has been arranged along the Gatineau as well as an inspection of the new parliament buildings. The Ottawa golf clubs have very courteously and considerately placed their links at the disposal of delegates who care to indulge in a game.

Civic representatives should remember to make their hotel reservations well in advance or to notify the secretary-treasurer so that he may make neces-

sary arrangements.. The Convention will be held in the palm room of the Chateau Laurier—27th, 28th and 29th July.

SEWER PIPE AND TILE MOULDS.

With the growing tendency of municipal corporations to make their own sewer pipe and tile because of the saving in cost and transportation charges there comes the question of securing the right kind of moulds, both in regard to design and stability of structure.

We have in mind that of a mould for pipe, which is already used in many municipalities in Canada. It is made in all sizes from 4 inches to 10 feet in diameter. The manufacturers are the London Concrete Machinery Co., Ltd., of London, Ont., who will be delighted to send their catalogue with prices to any municipality desirous of further information.

HIGHWAY BRIDGES.

The above illustration is that of one of the many highway bridges constructed by the MacKinnon Steel Co., Ltd., of Sherbrooke, Que. This firm handles all kinds of structural steel work power houses, standpipes, etc., and erects same anywhere in the Dominion. Having its own engineers the firm is prepared to advise councils and municipal engineers on any work in which steel or iron material is used.

STREET NAMES AND HOUSE NUMBERS.

The signs illustrated here are made of enamelled steel white lettering on a light blue black ground; not affected by the weather and always clean looking. One of the difficulties in many Canadian cities is to locate certain streets and houses because of the scarcity of name and number plates, particularly in cross sections. It pays any council to invest in a clean looking and strong name plate at every street corner. These signs are manufactured by the Thos. Davidson Manfg. Co., Ltd., Montreal, who are ready to send samples to any one making application.

THE LONDON (ENG.) TRAFFIC PROBLEM.

The inherent difficulties of the London traffic problem are to be found mainly in the fact that London has grown as a haphazard and unorganized congeries of suburban extensions. The Special Committee of Inquiry on Tramways appointed by the London County Council pictures them in a true perspective in one or two sentences. "Unlike most of the large cities in the provinces and abroad," the report states, "where one authority reigns supreme, it is necessary to have in mind the fact that in the area in view there are some 122 road authorities exercising powers of control. At present, except for the exercise of certain powers of control by the Ministry of Transport and the police, and the temporary powers conferred on local authorities by the Local Government (Emergency Provisions) Act, 1916, no effective limitation exists as regards the number or character of road passenger transport services which may be introduced into the area. As a result of this state of affairs, there are now being operated in the area about seventeen systems of separately operated tramways, and a large number of motor omnibus undertakings." When the report was submitted to the London County Council on Tuesday last, a recommendation was moved for the introduction of legislation to provide for the unified operation of local passenger transport undertakings in Greater London, and for the setting up of a Municipal Traffic Control Authority (to be appointed by the local authorities), such authority to be a temporary expedient

pending the reorganization of local government in Greater London, and that in the event of a new governing authority being set up, such authority should take the place of the Municipal Traffic Authority. Objection was raised to the words "unified operation of local passenger transport undertakings," but, having in mind the necessary for unity, it is desirable to differentiate between the terms "operation" and "working," or "administration," and it does not by any means follow that the proposal would, as Mr. Gordon argued, place the council tramway undertakings in the hands of somebody else. To evolve something like order out of chaos and attain the end of satisfying a majority of the people concerned is no easy matter, but, all things considered, the decision of the council to approve the recommendation was a wise one.—The Surveyor.

FIRE ALARM BOXES.

Many thousands of the Gammell Fire Alarm boxes are in use in Canada, though not near enough. It has been proved over and over again that a good fire alarm system is the best and most economical way of fighting the fire bug, and undoubtedly the Gammell equipment is the most reliable. The manufacturers in Canada are the Northern Electric Company, Ltd., who have distributing centres in all the large cities of the Dominion. The company has a very instructive booklet on the subject. Why not write for a copy?

FORMATION OF UNION OF MUNICIPAL SECRETARY-TREASURERS

Under the rather long title of "The Associated Committee of Rural Secretary-Treasurers" the secretary-treasurers of the province of Saskatchewan have formed themselves into an union for the purpose of raising their own standard of efficiency and to secure adequate compensation for their services. This being the first organization of its kind to be successfully launched in Canada its progress will be watched with interest and sympathy not only by municipal officials in other provinces but by every advocate of betterment in civic administration.

Undoubtedly the strength (and weakness) of municipal administration lies in its personnel. With efficient officers, who have sufficient confidence in themselves not to allow unnecessary interference with their work, a municipal council can do wonders in demonstrating the importance of municipal government to the economic and social life of the nation; but with the inefficient officers much of the labor of the council is wasted, and the members become discouraged, often to the point of giving up their office in despair. We have seen this time and time again, and regretted the reason. As one of the objects of the new association is to insist "on a proper educational standard for all its members and a high degree of honor and efficiency" it is very evident that its founders are determined that in the province of Saskatchewan at least the rural secretary-treasurers will be on to their job.

But there must be an incentive to efficiency, other than personal satisfaction in doing one's duty well. There must be a standard of monetary compensation which in municipal Canada is not lived up to. With few exceptions the municipal officer, considering his necessary qualifications, his responsibility and what is expected of him, is sadly underpaid in Canada; much less than his confrere in the United States, or even in Great Britain, so that there is every justification for the association in making one of its objects "adequate compensation for services rendered."

We would like to see a similar organization to that of Saskatchewan in every province in Canada, not only for the rural but for the urban officials as well, and for the benefit of municipal secretary-treasurers in other provinces we attach herewith a copy of the regulations and by-laws of the association.

REGULATIONS AND BY-LAWS.

Section No. 1.—Title.

This Association shall be a branch-organization of the "Saskatchewan Association of Rural Municipalities" and shall be called "The Associated Committee of Rural Municipal Secretary-Treasurers."

Objects.

The Objects of the Association shall be:

1. To work in conjunction with the "Association of Rural Municipalities" in all matters of public interest.
2. To protect the interests of the Council and the Public by insisting on a proper educational standard for all its members and a high degree of honor and efficiency.
3. To mutually assist each other in standardizing the work, methods and forms used, and in solving questions arising from the Administration of the Acts.
4. To secure a recognized standing for the profession and to provide means by examination for admission to the Association.

5. To obtain recognition of the importance and the responsibility of the Municipal Secretary's work and to protect the members of the Association in carrying out their duties in accordance with the law and the dictates of honor and integrity.

6. To secure for members adequate compensation for services rendered and satisfactory working conditions.

7. To watch legislation relating to Municipal work and to suggest to the Executive of the Association of Rural Municipalities from time to time such amendments as may be deemed advisable.

Membership.

1. Membership in the Association may be obtained by any Secretary-Treasurer in the Province of Saskatchewan.

2. The membership fee shall be the sum of \$5.00 payable in advance and shall be due on the first day of January in each year.

3. No member shall be allowed to vote or hold office unless he be in good standing.

4. Any member may be expelled from the Association by a vote of two-thirds of the members in Convention, providing that notice of motion is handed to the Secretary at least three weeks prior to the Convention, with the charges substantiated in writing.

Convention.

1. Convention of the Association shall be held annually, prior to every convention of the Association of Rural Municipalities and shall be held at the same City as the aforesaid convention.

2. Notice of the convention shall be mailed to each member of the Association under the name and address as recorded in the books of the Secretary at least three weeks prior to such meeting, stating the time and place thereof.

Election of Officers.

1. The Association shall have a Chairman, Vice-Chairman, and six committee men who shall constitute the Executive.

2. For the purpose of Election the Province shall be divided into six divisions in a manner similar to that observed by the Association of Rural Municipalities, each division electing one committee man, the Chairman and Vice-Chairman being elected by the Convention at large.

3. Any member in good standing shall be eligible to be appointed to the Executive.

4. The Officers of the Executive shall be elected annually.

5. Method of electing the Executive shall be by nomination at the annual meeting and by ballot or show of hands, as then decided.

6. A majority vote shall decide all questions.

7. Scrutineers to take the ballot at any election or on any vote may be appointed by the chairman. Any member in good standing not a candidate may be appointed a scrutineer. Scrutineers on election of officers shall not report the number of votes cast unless the meeting shall otherwise decree.

8. Except where otherwise provided, every member of the Executive shall hold Office until his successor is appointed.

Executive.

1. A meeting of the Executive shall be held immediately following the Annual Convention, when they shall appoint and fix the remuneration of a Secretary-Treasurer, who may or may not be a member of the Executive.

2. The Executive shall have power to fill any vacancy which may occur in the Executive and the person appointed shall hold office until the next Convention.

UNION OF SECRETARY-TREASURERS

(Continued).

3. The Executive may make rules and regulations for the proper conduct of the Association as it may deem expedient providing that such rules shall be in accord with the Regulations and By-laws as adopted.

4. An Executive meeting may be called at any time by the Chairman or Vice-Chairman acting for the Chairman, or a majority of the members of the Executive, by mailing to each member thereof by registered letter at least seven days prior to the proposed meeting, notice stating the time and place thereof, together with the business to be brought up.

5. Meetings of the executive shall be held as often as the business of the Association warrants.

6. Any five members shall constitute a quorum at all meetings of the executive and a majority vote of the members shall decide all questions.

7. The office of a member of the executive shall ipso facto be vacated by death, or conviction for any offence under the Criminal Code.

8. Members of the executive shall be entitled to their actual travelling and living expenses while attending meetings.

9. The executive shall meet prior to the annual convention to consider resolutions intended to be submitted to the convention, priority shall be given to such resolutions as were in the hands of the Secretary thirty days before the date of the Annual Convention.

10. No member of the executive shall publish or cause to be published any matter whatsoever connected with the Association unless the same shall first be authorized by the Executive.

Amendments to the Regulations.

1. Amendments to the Regulations and By-laws may be made at any Convention in the following manner:

- (a) Notice of motion shall be given by submitting a draft to the Secretary at least three weeks prior to the convention.
- (b) A vote of not less than two-thirds of the members entitled to vote shall be required to carry the motion to amend.

By-laws

1. The following shall be the order of business:

- (1) Reading minutes of previous meeting.
- (2) Reports of Officers and Committees.
- (3) Unfinished business.
- (4) Resolutions.
- (5) New business and discussions.
- (6) Addresses.
- (7) Election of Officers.
- (8) Adjournment.

2. Except by permission of the Presiding Officer no member shall be allowed to speak except to ask a question, or to introduce or speak to a motion.

3. Unless otherwise decided by a vote of the meeting, no member shall speak more than twice or for longer than five minutes on any resolution.

4. When a question is under debate no motion shall be in order except to adjourn, postpone, or amend. These motions take precedence in the order mentioned, and the first two shall be decided without debate.

5. All motions or amendments must be put to the convention by the presiding officer, who shall ask, "Are you ready for the question?"

Approved by Convention of Secretary-Treasurers assembled in Regina, this 8th day of March, 1921.

THE ENGINEER AND THE COMMUNITY.

The Toronto Branch of the Engineering Institute of Canada some time back appointed a Committee under the chairmanship of Mr. T. Linsey Crossley for the purpose of studying Social Service as a science in which the engineer can take an active part. In its first report the committee urged engineers to take an active part in public affairs—particularly in civic administration.

In referring to the report the Journal of the Engineering Institute says:

"In many respects this report is noteworthy, and Toronto deserves considerable credit for its pioneer work in this direction. In more than one of the valedictory addresses delivered by retiring presidents of 'The Institute' the call has been sounded to the engineer to think more of his duties as a citizen, to take his due place in the administration of civic and national affairs. It is evident that this call is being heeded. One of the striking features of the report referred to is the important place reserved for the engineer in social service work by virtue of his special qualifications.

"The engineer is, in fact, concerned directly with social service work in his profession, and it is most natural that this contact should be extended beyond office hours. The opportunities offered in this connection are endless; one of the most obvious being the education of the public at large to the benefits of good housing schemes, proper city planning, etc. The engineer is not supposed to be as eloquent as his brethren in other learned professions, but his training is such that the statement of facts in simple and logical language is his by right, and this is the very style needed. Of course this is only one way of applying enthusiasm, there are organizations whose purpose it is to further all schemes of improvement, and it is to the engineer's advantage not only to form study groups with his professional brothers, but to mix with others in unselfish work for humanity."

PUBLIC HYGIENE.

Dr. J. A. JUTRAS, Dental Inspector, Three Rivers, P.Q.

Even in these days when the authorities are treating public hygiene as an administrative duty of primary importance, it is hard to realize how little informed the majority are on questions relating to this matter, and how opportune it is to make them profit by modern improvements concerning the care of health. The teeth are probably the most neglected part of the body; they are considered as secondary organs, an ornament more than anything else; it is not well known that a good digestion is essential to good health, and that the teeth are the first organs of the digestive system. It is therefore important to educate the population on this point, and it is easily understood that we should start by educating the children.

CONCRETE INSTITUTE OF GREAT BRITAIN.

Of a total of 1,138 members of the Concrete Institute of Great Britain, 420 reside in London and its environs, 376 in the provinces, and 342 abroad.

BLACKPOOL'S (ENGLAND) TRAMWAY PROFIT.

In twenty-six years the Blackpool tramways undertaking has contributed \$2,660,000 to the relief of the rates. The amount handed over in 1918 and 1919 was \$65,000, and in 1920 \$50,000 was paid. The profits for the past financial year are only \$720.

CITY AUTO CAMPS

By W. E. KOEHRING.

Under the sub-title of "No City Can Afford to Sacrifice its Reputation and Hospitality by Neglecting the Stranger Within its Gates," W. E. Koehring, who describes himself as a farmer of Lawrence, Kansas, in the following article in "Kansas Municipalities" urges the setting aside of certain open spaces as auto camps for tourists.

"Without question the first and original tourist travelled afoot. It is also equally certain that he camped out. He did both from necessity. He may have liked walking but the liking for it did not persist in his successors to the extent of causing them to reject other modes of travel when offered. But that camping out satisfied a real longing of his nature seems clear from the persistence with which one type of successor, the auto tourist, clings to that practice. It is this camping out idea that makes the auto tourist something of a problem to the community through which he passes. The filling station, the service station, and the auto accessories shop amply provide for all his needs in motive power, lubrication, inflation and all other possible and impossible needs and facilitate in every way his journey, as well as the spending of his money. And the sign, "Oxy-acetylene welding done here," appears in the most unexpected, surprisingly remote, and, with present conditions of roads, welcome places.

If you are out yourself day after day, you will meet the tourist varying greatly in the completeness of his equipment, reflecting in the neatness of his appearance the condition of the roads and the state of the weather and also, strikingly, his lover of order or slovenliness. Blithely individualistic through the day, sufficient unto himself, the average traveler will find himself, as the day draws to a close, seeking some common point at which to gather and spend the night with others. This natural social instinct is fostered by a variety of causes. A certain timidity and dread about camping alone in the open in a strange community is felt by many. Another factor is the desire to discuss the condition of the road and routes of travel with those who have just been over them, and to learn of the best camping places on ahead. The fact that it is more satisfactory to buy food supplies in small quantities as needed rather than carry large supplies, and the further fact that an abundant supply of water of desirable quality can usually be found in town or city and not always elsewhere, determine the point of gathering.

Most towns and cities that are so situated as to have any considerable number of auto tourists passing through are recognizing a very obvious situation and are making an effort to meet it by providing some sort of place for them to camp. In some places this has been done in a spirit of true hospitality, with a studied attempt to provide for the needs and comfort of these travelers. With others, the response has been very reluctant, with no thought even for the absolute need of the situation. The question for each community is whether it can afford to allow this ever-increasing host to pass on to the next town. From a business point of view, it is well to consider that the aggregate of money spent along the way by the tourist is very great. Also, the purely humanitarian aspect of the situation cannot well be disregarded. There is also an ethical side, for there are some from every community accepting this sort of hospitality elsewhere and as a community we should do unto others as we would have them do unto us.

Equipping the Camp.

But, aside from all else, it must be recognized that there are certain things that the tourist must have; things which from the standpoint of sanitation and public health the

community cannot afford to neglect. Adequate toilet facilities that insure privacy and decency are of course the first requisite and every effort should be made that cleanliness prevails. The most satisfactory arrangement that we found in visiting many tourist camps last summer was buildings constructed entirely of concrete, built so that they could be thoroughly flushed and scrubbed. Sewer connection is of course highly desirable.

The water supply is next in importance. In the larger camps that we visited this was supplied by conveniently placing hydrants but in most cases no provision was made to take care of the wastage in drawing water and thus the surroundings were made very sloppy and disagreeable. Brilliant illumination is not desirable but wherever it is possible some lighting of the camp is a good thing, because of the feeling of safety that it gives the tourist and the better chance of observation it affords the community. Rough tables and benches were provided in some of the camps, and ovens of masonry had been built for cooking purposes. In some cases firewood was furnished free. This may have been partly a matter of self protection, for loose lumber and anything that burns readily is liable to be gathered up pretty closely when the need of fire for cooking or warmth becomes urgent.

Shower baths were provided in some places and we noticed that these were much patronized by the children. One of the things found occasionally and much appreciated was a place to wash the car. Sometimes this was simply a hydrant with sufficient hose to reach around the car, but at Ogden, Utah, where, in addition, a concrete slab had been laid on which to work, the arrangement seemed complete. In Blackfoot, Idaho, the park was divided, one half being used for camping while the other was being irrigated. This arrangement insured the life of the trees and grass without discomfort to the campers.

A well drained location is best for any camp ground and trees will contribute much to the comfort of the campers. Some regular caretaking is necessary to keep the place in a habitable condition. The tourist should be encouraged to be tidy about his surroundings, and this is best accomplished by providing receptacles for refuse and requesting their use by conspicuous signs, and by daily cleaning of the grounds allowing no accumulation of waste.

Be Easily Found.

Conspicuous signs giving clear directions as to how to find the auto park at the points where the principal roads enter the town are of great assistance to the tourist. In some cases the interest in this subject by some public official manifested itself by his daily visits to the park and his mingling with the tourists to learn of their ways, and to get new ideas as to their needs. This interest does not need to be confined to an official, but any public spirited citizen might well take it upon himself to study the needs of his city's auto park. Needless to say, it was in places that such interest was manifest that we found the most attractive camp surroundings, and it would be fortunate for the tourist, and the town, too, if there were more public officials and citizens who would take a personal interest in this subject.

"Over expansion and consequent financial embarrassment have caused in many localities a pessimism which is not warranted by the fundamental soundness of Canadian conditions and its almost unlimited natural wealth." — E. W. Beatty, President C. P. R.

CANADIAN PUBLIC DOCUMENTS

By W. J. DONALD, Ph.D.

1.—The Need.

Canadian governmental bodies, federal, provincial, and municipal, publish many very valuable public documents. The Canadian civil service contains among its numbers many very devoted and brilliant men whose work is extremely valuable and whose reports have great value for many private citizens and students of public affairs. Other reports are valuable because, though they are not what they ought to be, they are the best we have.

Canadian students of public affairs are greatly in need of a regularly published list of all these Canadian governmental documents of the Dominion, the Provinces and Canadian municipalities. Many citizens are not even aware that Governmental documents are regularly published, and most Canadians are quite ignorant of their value. Even when a person does want certain documents he is often unable to secure them, largely because he does not know where, when, or how they may be obtained. In vain, he goes to the average library, for the libraries are at best only partially supplied. In fact, the libraries are often in as unfortunate a position as the private citizen.

2.—Private Sources Inadequate.

At present, there are three chief sources of information respecting governmental publications: firstly, the lists of publications of particular administrative departments; secondly, the review of historical publications relating to Canada, and thirdly, the Blue Book supplement of the "New Statesman," published in England. The first appear from time to time on the front or back pages of all publications of the department or bureau, or, if the list is too large, it is published as a separate document. The Province of Saskatchewan has broken new ground by publishing monthly a booklet describing its general activities, and one may add that in recent years there has been published in the Canada Year Book a valuable list of public documents published annually by the Dominion Government.

But as this system of publishing lists of public documents has not been uniformly adopted and as it does not provide a central clearing house of information, it is quite inadequate.

The second source of information, the Review, published annually by the Library of the University of Toronto, attempts to list and review all books and publications relating to Canada. This, too, is deficient in that it is not sufficiently comprehensive. Not all federal documents are received for review and most provincial and all municipal documents escape notice. As many of the documents that are received are of technical rather than historical interest, they are practically, if not altogether, ignored. While the Annual is remarkably good and extremely valuable, all circumstances considered, obviously it cannot be a complete index of governmental publications. As it is published only once a year, the information it contains is usually belated. While the publication of a quarterly, by the University, would render bibliography more timely, the quarterly would probably be devoted to purely historical articles and bibliography. We must, therefore, look elsewhere than to this private source for a solution of this bibliographical problem. The third, the Blue Book Supplement, is similarly defective and for much the same reasons.

3.—A Governmental Duty.

As we have already pointed out, we cannot expect any private agency like the University of Toronto library, (which I think would be glad to be rid of what has now become a burden) to conduct this service. Likewise, a list published by a provincial library would be unsatisfactory since so far as citizens of other provinces are concerned, such a document

would be in a sense a private publication. No city library has the fund or the equipment for such a comprehensive enterprise. Furthermore, as we shall see, the scheme that should be adopted ought to include features which some Dominion agency would be best able to provide.

In this question, as in many others, Canada can learn from other countries. In England, P. S. King & Co., who deal in English public documents, publish a fairly comprehensive list. The United States has, however, accomplished the purpose in a much more satisfactory way, by publishing through the Library of Congress at Washington, a "Monthly Catalogue of United States Public Documents," and a "Monthly List of State Publications," which are sold to subscribers at \$1.10 and .50 respectively per year. This is the scheme which we believe the Canadian Government should adopt through the Parliamentary Library at Ottawa.

4.—Details of the Plan.

The American system should, however, be improved and extended in several details. In the first place, the Ottawa Library should make a supreme effort to collect and list every public document published in Canada. This is no small task, for municipal documents in particular, are very elusive, at least so the experience of such a library as the Municipal Reference Library of New York City, the best in the United States, shows. In this regard, the Canadian system would be in advance of the American which does not include Municipal documents.

Secondly, the list should be published each month with an index at the end of the year. Timely information is the most valuable. This would probably be warranted by the fact that only one series covering not only the federal and provincial, but also the municipal field would be published.

The additional service that would be rendered by working out an adequate classification of documents could hardly be exaggerated. Such a classification should not be finally determined upon until all interests concerned, leading libraries, heads of governmental departments, and the members of learned societies had been consulted. When this has been determined upon the books listed should have assigned to them in proper numbers, together with cross reference numbers. Such a scheme would be of incalculable value to librarians and catalogue departments. In fact, it might altogether take the place of a card catalogue system for Canadian public documents. Furthermore, an arrangement might be made by which all publications would have printed on them the proper number determined by the classification already adopted, so that a document might be assigned, as soon as it was received, to its proper place on the shelves.

How valuable the scheme suggested would be to librarians and students of public questions, is too obvious to need emphasis. Apart from this, however, the whole system of governmental publication would be of much more value than it is to-day. Instead of being the occasion of enormous waste of money, the documents would become virtually an educational institution; in fact, one of the most effective educators, because it would be efficiently organized.

SAFETY FIRST.

According to a recent census taken among school children in Detroit it was found that out of 600 accidents 459 were caused directly or indirectly by automobiles. The automobile is a useful means of transportation but there is no reason why it should be a menace to child life, which it actually is becoming, not only in Detroit but in many districts in Canada. Traffic regulations are not stringent enough to protect child life.

ROAD DEVELOPMENT IN THE TRANSVAAL

In a very interesting paper, delivered before the South African Branch of the Municipal and County Engineers, Mr. A. D. Holmwood (Superintendent Roads and Local Works, Transvaal), describes the history and development of the roads and highways of the Transvaal. While climatic conditions in South Africa are totally different to what they are in Canada—not altogether in favor of Canada with its extremes in heat and cold—the highway development in this country is considerably in advance to that described by Mr. Holmwood, both in mileage and in stability. At the same time it should be stated that during the last decade great strides have been made in the building of permanent roads throughout South Africa, in spite of the apparent high cost of construction which according to Mr. Holmwood works out \$17,500 per mile (including culverts) for an eighteen foot water-bound macadam road.

The following are extracts taken from Mr. Holmwood's paper:—

A paper on roads in a land still in the early stages of development will probably be of little interest to engineers who are dealing with the question in older and more advanced countries. In these countries roads of the water-bound macadam class are being discarded as unsuitable for present-day requirements, while it will be years before we can hope for many miles of such road, in spite of the fact that modern transport vehicles are fast growing in numbers. There are, however, many who are assisting in the development of young countries, and others who may follow, consequently it is the hope of the writer that the contents of the paper may be of more than local interest.

History.

The history of Transvaal road development is short; this is a fact not always appreciated. Less than one hundred years ago the country had not been explored by white men. Those who set out on the Great Trek from Cape Colony in the year 1836 had to find their way northwards into unknown territory, without the aid of a beaten track, relying upon the sun as their main guide in respect of both time and direction. For many years the native were hostile and there was no labor available, excepting that of the small army of pilgrims. These hardy pioneers were forced to take their convoys along lines presenting the fewest difficulties. In the absence of facilities for reconnaissance, obstacles in the line of march had to be overcome in turn as they were met. Lack of explosives inadequate plant and labor made the grading of a track along slopes impossible, consequently rises were negotiated by taking wagons straight up the most suitable ridge, or nek, the gradients in many cases being 1:3.

In the light of these facts, more especially to those who have toured this vast province, there is no wonder that our roads are to-day in much the same state as were those in England during the eighteenth century. Owing to climatic and geological conditions it has been possible to carry on with perhaps less hardship than that experienced in Europe during the earlier days, but progress calls for greater effort.

Earlier Efforts.

Those in authority do not appear to have been in a position to pay any attention to roads prior to the year 1893. For that year the Government of the South African Republic voted a sum of \$181,750 for roads and streets. For the succeeding years up to the time of the British occupation the expenditure was as follows:—1894, \$428,500; 1895, \$419,000; 1896, \$732,500; 1897, \$886,000; 1898, \$619,000. For the year 1899 a sum of \$625,000 was voted for roads and \$230,000 for bridges, but the outbreak of war did not permit of full advantage

being taken of this vote. It is not clear from the records what percentage of the money was expended within town or township limits, but it is evident that a considerable amount was devoted to streets.

In the earlier periods technical supervision did not play any part. Practically all the work was entrusted to local farmers, who were given contracts to make and maintain specified length of road. These contracts did not lay down exactly what was to be done, and the quality and quantity of work appears to have been left to the discretion of the contractor. Payments were, as a rule, made at intervals of three months in proportion to the period and amount of the contract.

After the British Occupation.

During the year 1902, when the new public works department was being formed, the organisation included a division for the purpose of dealing with roads and bridges. From that date expenditure on country roads has averaged \$750,000 per annum.

Work was done by native gangs under white supervision, an effort being made to effect some improvement with totally inadequate funds. It is true that traffic in those days was very much lighter than to-day, but the roads had fallen into very bad state of repair owing to neglect due to war conditions. It was not therefore possible to accomplish much in the nature of permanent work.

The year 1906, when Crown Colony administration gave place to responsible government, brought about further changes. The new Government favored a policy of contract work on the old lines. This necessitated gradual disbandment of gangs and overseers. Owing to the nature of the work being such as to render it impossible to write suitable specifications and to arrive at the value of work done, the system proved a failure. In the early days when those employed in the making of roads were more directly concerned in the benefits to be derived from better transport facilities than in monetary returns, that system could be justified. To-day, however, road making has become a technical business.

The foregoing remarks briefly reflect the position to the time of Union.

Union and After.

The South Africa Act, which came into operation on May 31, 1910, had the effect of again altering the organization. Each of the former colonies was created a province of the Union of South Africa.

Among the various matters delegated to the provincial councils are:—

- (1) Local works and undertakings within the province, other than railways and harbors;
- (2) Roads, pons and bridges, other than bridges connecting two provinces.

Area and Population.

The area of the Transvaal Province is 110,450 sq. miles, carrying a population of approximately 500,000 European and 1,300,000 colored persons, about 40 per cent of the European population living in rural areas.

Rainfall.

Heavy rains must be expected during the period October-March inclusive. The remaining months of the year are as a rule dry. During the wet period an average of 4 in. of rain in an hour is not uncommon, and there are records of 4.19 in. having fallen in thirty minutes.

It will therefore be seen that there are extreme climatic

ROAD DEVELOPMENT IN TRANSVAAL.

(Continued).

conditions prevailing, and that these conditions are harmful to the roads.

Organization.

The superintendent of roads and local works is the senior technical officer of this division of the provincial administration, headquarters being in Pretoria. There are an assistant superintendent and two chief inspectors of roads attached to headquarters staff for road purposes, the chief inspectors having general supervision over defined areas.

The outside or district inspectorate consists of fifteen permanent officials, assisted by sub-inspectors when and where circumstances justify extra supervision charges. These inspectors are supplied with motor cars for travelling purposes.

With a view to keeping in close touch with local requirements, there are advisory boards in each magisterial area. These boards are comprised of the magistrate as chairman, with three or more local inhabitants nominated by the administrator. There are twenty-four such boards.

System.

The system in force to-day is departmental gangs, consisting of natives under white supervisors (gangers) on all works of a scattered nature. In most cases where the work is of sufficient magnitude to justify calling for tenders, and is of such a nature as can be specified in detail and paid for at schedule rates, the job is put to public tender. Only in cases of emergency are inspectors authorized to let informal contracts, and then not for sums exceeding \$250 for any one job.

Laws.

The Roads Ordinance of 1912 embraces all legislation governing rural roads in the province.

Apart from the inspection of certain sections of roads within municipal limits, with a view to the payment of a small annual subsidy which is voted towards the upkeep, the roads division of the provincial administration does not concern itself with urban road matters.

Under the Roads Ordinance all public roads within the province (beyond municipal limits) are vested in and remain under the control and charge of the administrator.

These roads are classified as follows:—

- (a) Main roads, width 100 Cape ft.
- (b) Branch roads, width 50 Cape ft.
- (c) Bridle paths, width 15 Cape ft.

Bridges form portions of the road for the purpose of the ordinance.

The administrator has power to reduce these widths when he is satisfied it is necessary to do so.

The ordinance prohibits the use of traction engines or other heavy mechanically-propelled vehicle, or any wagon or vehicle weighing more than 8,000 lbs. (gross), unless permission has first been obtained from the administrator to exceed these limits. This is a necessary provision in view of the fact that, though all the bridges erected subsequent to the British occupation are designed for heavy loading, there are many of the earlier structures that would not carry such loads.

General Considerations.

There are at present 18,000 miles of recognized public roads in the province (outside municipal limits). These roads or tracks are essential for daily public use, and the mileage increases as the country becomes more populated. Of this length of road (or track) some 400 miles have been hardened, mostly with gravel surface, the balance being kept passable as far as funds will permit.

It has been necessary to "cut down" in order to keep the track surface passable, this policy having been unavoidable owing to lack of funds. It has been an old practice and a

very pernicious one. The result is that quite 40 per cent of the roads to-day are below surface level and cannot be drained. Imagine what this means during our wet season.

The time having arrived when definite steps to build up our roads system are essential, it is a matter for consideration as to what course this building up should take. Care must be taken not to exceed the economical limits of the capacity of the community to pay, both for construction and maintenance, and the immediate needs of the country must be met.

The volume of weight of traffic to be dealt with is not great. The movement of stock along main roads is not a serious factor as is the case in many farming countries, but climatic conditions are unfavorable.

The general contour of the country is favorable, and presents no difficulties in the matter of grading. There being comparatively few parts involving costly cut and fill work, practically all the money provided for new construction could at once be applied to surface improvements. Having in view the traffic to be served over an extensive area, and the amount of work to be done, the question arises as to how much the country can afford to spend on its roads.

It would be necessary to construct roads having a life coinciding approximately with the loan period if the work is carried out on borrowed money. To justify long period loans, high-class roads would be necessary. While such roads would undoubtedly afford an incentive to the use of mechanical haulage and thus open up isolated parts of the country, their cost would place a heavy burden on the taxpayer.

The writer is of opinion that while it is most desirable to have roads to suit modern transport, conditions in this country necessitate limiting high-class roads to areas where traffic is heavy enough to warrant their cost. In other areas present and future needs of the country can be met best in opening it up by means of gravel roads within a limited period and thereafter gradually improving the standard.

Costs.

Water-bound macadam roads are costing as much as \$16,500 per mile for an 18-ft. roadway including culverts.

The specification provides for 4-in. thickness of crushed stone (after consolidation) laid on natural formation. (It is seldom necessary to provide for stone foundations.)

A fair average for this class of road when material can be had within a mile or two of the work is:—

One mile of road as above, initial cost.....	\$16,500
Twenty years' maintenance (included once resurfacing) @ \$1,000 per annum.....	20,000

Total	\$36,500
Average cost per year, \$1,825.	

The above is an estimate only in so far as upkeep is concerned, being based on observations over periods from six to fourteen years.

There are many miles of gravel road in the province which can be maintained to original standard for \$320 per mile per annum. On the other hand there are similar roads quite incapable of carrying the traffic, and should be replaced by a better class.

Such a road extends a distance of some 60 miles.

Traversing municipal areas from end to end this road carries more traffic than any other road in the province, if not in the Union.

Owing to the nature of the subsoil, it has not been found necessary to lay heavy foundations throughout. Increased traffic has, however, necessitated the strengthening of the road, and 4 miles have recently been reconstructed by prison labor.

(Continued on page 184).

SELF-CORROSION, NOT STRAY CURRENT ELECTROLYSIS

By W. NELSON SMITH, M.E.

In view of the general impression that much of the damage to cast iron water piper (where near electric car tracks) is due to electrolysis, the following article by Mr. W. Nelson Smith is of special interest not only because of its contradiction to the electrolysis idea but because of its claim that it is self-corrosion that does the damage.

In Western Canada, the corrosive action of the so-called alkaline salts, which are widely distributed through the soil of the three prairie provinces, has been acknowledged to be very destructive to all underground structures of concrete made with Portland cement; but it is only recently that suspicion has been directed to those same salts as being responsible for a large proportion of the damage to cast iron water pipes which has been occurring in Winnipeg for the last 15 years or more. So long as there was an electric railway in operation, stray current from which could be charged with the responsibility for damage to pipes and cables, no one took the trouble to investigate the possibilities of self-corrosion of metal structures in the presence of neutral solutions of the so-called alkaline salts mentioned below, until the matter was taken up actively last year by the writer as Consulting Electrical Engineer of the Winnipeg Electric Railway Company.

The development of engineering science, especially within the last few years, has carried with it an increasing appreciation by engineers of the importance of chemical knowledge in dealing with even the simplest and commonest materials of engineering construction. As engineers have become more familiar with advances in chemical science, particularly in recent researches in the electro-chemistry of metals, the range of application of chemistry to engineering problems, particularly on the subject of corrosion of metals, has been very greatly broadened.

Evidence is constantly accumulating that cast iron pipe is not the indestructible material that it was formerly supposed to be, even by engineers; and under certain conditions, lead and copper are found to be as vulnerable to self-corrosion, as cast iron.

The recognition by responsible chemists and engineers of the possibilities of self-corrosion cannot fail to cultivate a more scientific point of view in determining the responsibility of stray currents from electric railways for causing corrosion damage to underground metal structures. Hitherto it has always been the fashion to attribute all corrosion to an electric railway, if there was one near enough, while cases that could not be so explained, have rarely, if ever, come to the knowledge of the public.

The fact that the gas pipes in Winnipeg, though usually near to the electric railway tracks than the water pipes, have suffered no destructive damage while the latter have suffered severely, also shows that there are some special electro-chemical conditions favorable to the gas pipes that do not exist in the case of the water pipes; though from the point of view usually taken by electrolysis experts, one set of pipes ought to be damaged as badly as the other.

The only scientific explanation of this fact thus far advanced, is that for some reason or other, there is less moisture in the soil next the gas pipes than in that next the water pipes.

Neither set of pipes has been electrically drained to the railway power station for many years, but both sets of pipes have been equally exposed to access of stray current.

Now that self-corrosion of cast iron pipe is found to be perfectly possible under soil conditions hitherto thought to be harmless, more interest will be taken in the use of testing

equipment which has been recently developed for determining with accuracy whether a buried conductor is really positive to the earth, which is the only condition where stray current can be blamed for corrosion damage.

An examination by a competent electro-chemist can be depended upon to determine the possibility of self-corrosion, in instances where stray current cannot be found to which to attribute it, or where the current is flowing into a pipe and not out of it. The results of research work now being conducted along these lines will be of especial interest when completed, because in connection with the electrical testing methods recently developed, it will now be possible to settle an electrolysis controversy on a basis of readily established electrical and chemical facts, instead of the conjecture, fear or prejudice which often control procedure in such a situation. The article follows, prefaced by interviews with Winnipeg city officials.

The attention of my readers is called to the news item below, taken from the Manitoba Free Press of Winnipeg, Manitoba, Canada, of May 28th, 1921, describing the finding of corrosion upon a water main in the neighboring town of Selkirk that had been buried for 7 or 8 years, in a locality where stray current from an electric railway could not have caused the corrosion.

As the water supply system of the hospital is secured from wells drilled on the property to a depth of 250 to 300 feet, and the piping system is entirely separated from the Selkirk water supply, and as the hospital is more than half a mile from the western outskirts of the town, and not less than 1¼ miles from the northern extremity of the Selkirk trolley line, it was said to be quite outside any possible path of stray current from the electric railway. The only electric current on the property is a 60-cycle alternating current for lighting, and the United States Bureau of Standards, it was pointed out, had proved by exhaustive and long-continued experiment, that it was impossible for an electric current of this character to cause destructive electrolytic action on buried metal structures.

The pipes examined, although they had not been laid for more than eight years, were shown to be affected by some corrosion of the cast iron, well advanced in many spots. Several members of the party dug the products of the corrosion out with their pocket knives, to a depth of one-sixteenth to one-eighths of an inch, not only near the joints but in the middle of the pipe.

The progress of corrosion was observed in its various stages, and the corroded metal in the pits eaten into the pipes was similar in appearance to the products of corrosion observed on damaged water pipes in Winnipeg. All such damage, wherever it had happened in the city, it was stated, had always been attributed solely to electrolysis from stray currents leaking from the electric railway tracks.

The soil on and near the pipe was examined and found to compare very closely, in general appearance and composition, with the soils in which the Winnipeg water pipes are buried, many samples of which from various parts of Winnipeg and adjoining municipalities, have been examined during the past year both by Mr. Blackie and Dr. Shipley.

The presence of soluble salt crystals in considerable quantity was also observed by all the party on clay freshly excavated from new trenches in the street in front of the hospital. The similarity of this clay and its salt content, to the clay and its contained salts as met with all over Winnipeg and vicinity was remarked upon by all present.

The water pipe had thus been imbedded in earth containing salts that are known to be chemically active, and

A COMMUNITY PLAN IN MOVIES.

As a demonstration of what can be done in community motion pictures, the following two examples are quoted:—

Mr. Harry Crandall, owner of some thirteen theatres in and around Washington, D.C., has taken the leadership in a fine plan for young people's matinees on Saturday mornings during the spring and summer. He discovered that the city school playgrounds were to be closed this summer for games because of lack of the \$7,000 necessary to keep them opened and supervised. He was satisfied that two fine services could be rendered at one time, namely, supplying selected entertainment to its boys and girls and furnishing the net proceeds for the playground budget. He called the representatives of some fifteen women's societies together and proposed his plan. They agreed to review and endorse fine entertainment picture which Mr. Crandall selected, to help in supervision and to build up neighborhood and school support. This splendid and friendly plan has a democratic slant which deserves widespread imitation.

The Tivoli Theatre in Chattanooga, Tenn., has made a thorough-going success of young peoples entertainments in that city. The management gathers from 1,500 to 2,000 boys and girls and treats them to the best pictures obtainable. The entire group associated with the theatre; doormen, ushers, orchestra—all are helping gratis. The teachers also aid with stories, the ministers with talks as short and pointed as arrows, and the parents are in hearty accord.

When the pictures shown are followed by class-room discussion in the schools it looks as though a real service is being performed. Such a program means real work, but it is pre-eminently worth while. The success is due in no small measure to E. R. Rogers, of the Southern Enterprises, and R. L. Park, the manager. This should be duplicated widely in the South.

SELF-CORROSION.—Continued.

further, by reason of its location, had been entirely free from access of stray direct current, which can only dissolve the metal where it leaves a buried pipe to enter the surrounding earth. Stray-current electrolysis was, therefore, admitted by all the party to be impossible under the circumstances.

The only inference that could be drawn from the facts noticed by the party was that the observed corrosion could only have been caused by the chemical activity of the solutions of the so-called alkaline salts.

It was further pointed out that it had also been recognized for several years past, by practicing civil engineers, and more recently by public authorities and the public generally, that these alkaline salts, the sulphates, chlorides, carbonates and bicarbonates of magnesium, calcium and sodium, which are widely distributed through the soil of western Canada, are very corrosive to concrete made of Portland cement, no matter how carefully the concrete is mixed and deposited.

Chemical research work started about a year ago under the direction of W. Nelson Smith, M.E., and conducted personally by Dr. J. W. Shipley in the laboratory of the University of Manitoba, has brought to light many facts hitherto unsuspected either by the engineering profession or by the public, respecting the behaviour of commercial cast iron, lead, and copper, in contact with neutral solutions of the above so-called alkaline salts. This research is now so far advanced that a definite report on the main outstanding facts will be forthcoming during the present summer.

Pipe corrosion, as observed by the party of chemists, engineers and specialists, it was urged, thus fairly comes into the asme category as the corrosion of concrete, with its ac-

THE NECESSITY OF GOOD MUSIC FOR THE MASSES.

There is such a thing in the world as Community music, and there are countries and cities where community music has been introduced with instant and abiding success. As the study of Euclid trains the mind in the abstract, so the study of music trains the emotions in the abstract. There are millions whose only use of the emotional life is base, degraded, and undisciplined. If you desire to train and ennoble this emotional life music is your all-powerful ally.

Is there any great city in the world which cannot offer good music to the "toiler in the city" without money and without price? Look what the large industrial centres of Europe, of England, and of America are doing in this respect. In these countries, during the summer months, the poor man and his family can hear the best of vocal and instrumental music free of cost. He can hear open-air concerts without any expense save a few cents for a programme. Here, we have wealthy cities, which do not contribute a solitary dollar towards community music, and which, worst of all do not contain a civic concert hall, or any hall whatsoever devoted to choral concerts for the poor during the long months of a cold Canadian winter. In England the poor man can hear a great Oratorio for sixpence. Here, if we want to hear good music we must pay a high price. Is not this an appalling condition, and is it not true? A few words uttered years ago by an eminent divine in England, as to the value of music for the poor and degraded. The Rev. R. H. Hawels once gave out this significant statement:—

"I have know the oratorio of the Messiah draw the lowest dregs of Whitechapel to hear it, and during the performance sobs have broken forth from the silent and attentive throng. If such performances of both sacred and secular music were more frequent, we should have less wife-beating, less drunkenness, less spending of summer gains and less pauperism in winter."—Dr. Percival Illsley.

companying results of collapsed sewers, culverts, piers and foundations. Henceforth, pipe corrosion will receive the attention of professional scientists, as a matter of public concern of equal importance with the corrosion of concrete.

The western professional meeting of the Engineering Institute of Canada will, in August, discuss at some length the subject of cement and concrete corrosion. A cement research committee of the institute has recently been formed, composed of the leading civil engineers of the three prairie provinces. The Manitoba representation on this committee is headed by Professor Finlayson.

As nearly all the members of the party who viewed the self-corrosion of the pipe at Selkirk, are members either of the Engineering Institute or of other scientific societies of national scope, the whole subject of the destruction of underground pipes by stray current electrolysis or by self-corrosion, has now been brought to a stage where it can be dealt with upon a new and purely scientific basis, in which all the relevant facts of engineering, electro-chemistry, and local soil conditions, can be given their proper weight in reaching a fair and just conclusion.

The same issues also contained the following item on concrete corrosion in Transcona, 7 miles from Winnipeg:—

A big break in the Transcona main sewer on Nairn road has recently been discovered, and is being repaired. The trouble was caused by the sewer being eaten away with alkali, and about 50 feet is affected. Repair work is necessarily slow on account of having to place a drain within the sewer to take away the water, and concrete is being poured in the affected spot. The job is a big one, and is expected to take some time to complete.

HOUSING

GEO. PHELPS, Secretary Toronto Housing Association.*

At the present time the question of housing is of interest to all of us as citizens, but is of more particular interest to Municipal Engineers and those dealing with transportation problems and manufacturing.

From an engineering standpoint our housing methods are uneconomical. People are allowed to build where and how they will and tremendous sums of money are often wasted in serving with public utilities, large areas which have only a small and scattered population. It is very necessary for economic reasons that there should be devised a proper system of control over the housing methods of the people.

From a health standpoint also there is much to be desired. We overcrowd some areas with dwellings and foster conditions which almost compel overcrowding in the houses themselves. On the other hand, we allow the erection and use of unhealthy dwellings on the outskirts of our cities, where living conditions are often as bad, and even worse than they are in the densely populated downtown districts.

From the aesthetic standpoint we fail badly. Instead of preserving the natural beauty of a site, we cut down our hills, fill up our valleys, and add the further monotony of a plain surface to an already monotonous and rigid gridiron plan.

We allow our streets to be filled with poles and wires, with street signs and advertisements and we do not even exercise control over the architecture and general arrangement of our houses. So that many of our streets have a most deadening effect on the people who live in them.

And all this must almost necessarily be, so long as we build merely for the individual. We shall not easily get away from it until we plan for the Community, build for the Community and control our streets, in the interests of the Community.

Some attempts at collective housing have been made in Toronto within recent years by the Toronto Housing Co., and the Toronto Housing Commission. The former built a number of dwellings which are described as cottage flats, some six years or so ago. These have quite a nice appearance and individually are quite well planned, but as a whole the scheme can hardly be called housing. The location at Bain Avenue is not by any means ideal and the houses are crowded together on much too small an area, except for use merely as flats, not as family houses. The density of population on this site is about 140 persons per acre, which is nearly double the average density of the ward, the most thickly populated portion of Toronto. It will easily be seen that such a scheme is capable of only very limited use, and is not a move towards a proper solution of the housing problem.

The Toronto Housing Commission, which came into being in 1919, have done better. They obtained some fairly large sites and have built a number of very good semi-detached six roomed houses, to each of which is a small garden. Individually the houses are good, but the scheme is wanting in the general planning. Although built as a complete scheme, the houses are to be purchased by the individual occupiers and consequently there remains with the purchaser no community interest in the scheme as a whole. A rather greater part than is necessary of the area built on is given up to roads, where as it might have been so planned that some of the road space would be saved to provide a community playground without diminishing the area of the lots.

The writer's experience as a purchaser from the Housing Commission will illustrate the need of such a playground. Purchasers were allowed to occupy the houses for a few months before they were completed. The fences between the lots were about the last things to be completed, and the children consequently had the run of practically the whole block as a playground. Naturally, this would not be fully appreciated by an enthusiastic gardener, especially if he had no children of his own, but from the children's standpoint it was splendid, and it was delightful to see their freedom, good friendship, and the nice way they all played together. The parents too met easily and exchanged visits across the lots and in a very short time there sprang up the beginning of a true community spirit. Then the finish of the work came. Picket fences were put up between the lots, the feelings of mutual interest and responsibility were nipped off short, the street became the only common meeting ground and the only playground, the occupants of the houses are now merely an aggregation of individuals, instead of a community, and the general appearance of the gardens is rather that of a lot of cattle pens.

What is badly wanted is some common meeting place other than the street, both for grown-ups and children, and this should never be overlooked in any housing scheme.

Scientific planning is absolutely necessary to really good housing and along with this, collective responsibility in order to foster a community spirit and the right kind of public conscience in our citizens.

Not only is housing of interest to the Municipal Engineer and the Town Planner, but it is very essential that all engineers and scientific men should be fully acquainted and take their part in this and other matters affecting our social welfare.

The laws of nature demand that every human being, in order to live, must have both food and shelter, and these must be of the best if we would continue to exist as highly developed beings. In the interest of the race we cannot any longer afford to leave such things to chance, to be provided or not provided, according to the physical and mental ability of the individual, and also depending on accidents of birth or other circumstances over which the individual has no control.

In our work as engineers we have to recognize the fundamental laws of nature and we realize that our material structures will fail unless we implicitly obey those laws. We would not leave to chance the strength of any part of a bridge, the soundness of timbers used in a structure, or the adequacy of the foundations for the support of a building. These must all be fit for their work, of the best quality, tested and inspected to insure their fitness to perform their particular function. It is otherwise with our Social Structure, with all that most concerns our mental and moral development and the well being of the race. If a member fails through any disability, we perhaps feel sorry that he is so unfortunate, but we little realize how unfortunate it is for humanity that a member has failed to perform his function, which failure results in a loss to and weakening of our whole social system. When we find a defective member in an engineering structure, we immediately proceed to remove and replace it, that it may not endanger the whole work. To what extent this may be applied in our social structure it is difficult to say, but at least we should recognize the importance of seeing that each member is fitted as well as possible to perform his particular function.

As with our engineering structures so, we may be sure,

* Paper delivered before Toronto Branch of Engineering Institute of Canada.

CONFIDENCE INSPIRED BY HALF-YEARLY REPORT OF BANK OF MONTREAL.

Increased confidence in the soundness of Canada's position is inspired by the half-yearly statement of the Bank of Montreal now going forward to the shareholders.

The condition of the leading banks to-day is regarded as a matter of unusual importance, in view of the marked changes that are occurring in the general business of the country. During the period of readjustment and deflation there will be considerable advantage to the country from the fact that the premier Bank has been able—not only to maintain its usual strong position, but at the same time to secure for its shareholders very satisfactory earnings.

As was to be expected in the fiscal years following the war, there is a marked change in some of the large special deposits. This change is also reflected in the total assets and evidently represents the settlement of special business assumed for Governments during the war period. That the Bank was able to meet such a condition with so small disturbance to its general business draws attention to the exceptionally strong position which the Bank has maintained through the past few years of unprecedented expansion.

It is undoubtedly due to the careful and conservative policies followed during the periods of expansion that the Bank has now found it possible to meet the quickly changing conditions without apparently causing the slightest disturbance of its accustomed liquid position. Under the world-wide conditions which presently prevail such a position will be of the greatest benefit to the country, especially in outside financial centres, such as London and New York. In these centres there is a desire to know just how Canada is meeting

the unusual developments of the deflation period and the position now revealed will give rise to universal satisfaction.

The general statement of assets and liabilities shows total assets of \$507,199,946. Of this amount liquid assets total \$252,377,569, equal to 55.38 per cent of liabilities to the public. Of the liquid assets Gold and Silver Coin and Dominion Notes represent a total of \$70,971,332, which is equivalent to 15.57 per cent. of public liabilities. Total current loans and discounts, as well as loans to cities, towns, municipalities, etc., amount to \$244,301,772. Of this current loans and discounts in Canada amount to \$206,049,887; loans to cities, towns and municipalities \$21,738,554, and current loans and discounts elsewhere than in Canada \$15,988,754. Total deposits stand at \$416,600,938, which includes deposits bearing interest of \$310,846,487, and deposits not bearing interest \$105,754,451.

The Capital of the Bank has been increased to \$22,000,000 and the Reserve has also been brought up to the same amount and stands at \$22,000,000.

The Profit and Loss Account reflects the largest Capital which is available. As a result, for the half year ending April 30th, 1921, profits amounted to \$1,910,077, as compared with \$1,802,586 for the corresponding period last year. The profits, added to the balance carried at the end of the last fiscal year, made the total amount available for distribution \$3,161,927. This was distributed as follows:

Two quarterly dividends of 3 per cent.....	\$1,320,000
Reservation for Bank Premises.....	200,000
War Tax on Bank Note Circulation.....	110,000

leaving a balance to be carried forward to Profit and Loss of \$1,531,927, as against \$1,251,850, at the end of the last fiscal year.

HOUSING.—Continued.

is it with our social system. Its strength and permanence depend on the fitness of each of its members; and our continued existence as highly developed beings depends on our rendering perfect obedience to the laws of nature.

In our training and our work as engineers and scientists, some of these laws have been revealed to us, at least in part; they appear to us both universal and eternal. The law of gravity; the conservation of energy; the indestructibility of matter; there is no question in our minds but that these hold good throughout all space, and we see, some more and some less clearly, a unity pervading all things in nature.

The life of the individual and of the race are not haphazard and must fit into the scheme of things or be eventually rejected and replaced, and in order that they may fit, it would seem desirable that the methods of the scientist should be applied to the study, the guidance and development of our social system. Any truth, any fact, that is discovered concerning the world around us has a direct bearing on our social progress and as nature's secrets are by one opened to us, we see more and more clearly that each separate revealed truth is only another manifestation of that great unity which is the guiding and controlling force throughout the universe.

Because of the nature of our training and our work, through which some of nature's laws are revealed to us, we engineers and scientists are in a peculiarly advantageous position and should be best fitted to lead in the search for the right line of progress for the race, and we owe to humanity the duty of showing both in our lives and in our work those eternal truths, of which every single smallest fact is a step

STEEL CULVERTS.

The essential feature of this culvert are the narrow and deep corrugations which give the maximum strength with

the minimum weight. This great strength enables the culvert to withstand tremendous external stresses from various types of rolling loads. It also gives it the power to resist great internal stresses from frost and ice. With its ease of installation, durability under any conditions, lightness in handling and comparative cheapness this type of culvert is very popular with road engineers. With a diameter of from 8 to 84 inches the culvert illustrated runs up to 40 feet lengths. It is manufactured under the trade mark "Perfect Toncan" by the Pedlar People Limited, Oshawa, Ont.

The firm publishes a special booklet on culverts which every municipal engineer should send for.

PLAYGROUNDS OF QUEBEC.

To the summer vacationist weary of the conventional summer resorts, the Province of Quebec makes an especially strong appeal. The old and the new are here found side by side. The visitor may tread where some of the great pages of history have been written in blood. The lover of the quaint and curious may search out places which are in the twentieth century but are not of it. The artist may revel in the sight of the grandest of scenery amid the mountains, in the valleys and—on the Gaspé Peninsula—by the sea. For the sportsman there are unrivalled forests and streams, lakes and shores. Within a day's journey of the cities are regions as yet so little disturbed that the moose, caribou and deer occasionally visit the farmyards of the settlers. The Canadian National-Grand Trunk Railway have issued a very handsome booklet descriptive of many of the attractive summer resorts in Quebec. It is profusely illustrated and contains a splendid four color map of the Province. A free copy for the asking from Canadian National-Grand Trunk Agents, or from M. O. Dafoe, 230 St. James St., Montreal.

**BUSINESS WELL MAINTAINED BY
MERCHANTS BANK IN CANADA:
SUBSTANTIAL GAIN IN DEPOSITS**

The strength of the Canadian banking system during the period of deflation is strikingly reflected by the statements of the larger Canadian banks. The annual report of The Merchants Bank of Canada, details of which have been made public, is the first of the larger banks to make its appearance for the fiscal year to April 30th.

This covers almost the twelve months during which deflation has progressed throughout the country, and on this account it will be of special interest to shareholders of Bank to know that its business has been so well maintained. During the war period, as is well-known, all the banks undertook special business for the governments. For the past year there has been a general tendency to adjust these special undertakings and to go back to normal lines of business.

The Merchants Bank is particularly interested in the growth and development of Canadian commerce, agriculture and industry. On this account its business is closely related to the whole general public of the country. There will be special interest to see whether during the period of deflation and lessened industrial activity the people of the country have been able to keep on adding to their savings. As far as the Merchants Bank is concerned, its clientele have been able to do this, as deposits bearing interest at the end of the fiscal year amounted to \$120,904,549, an increase of approximately \$6,000,000 for the year.

Notwithstanding the changed conditions and the lessened requirements of customers, current loans have been well maintained. These now stand at \$112,269,195. Of this amount current loans and discounts in Canada total \$109,193,592 and loans to cities, town, municipalities and school districts \$3,085,602.

Of the total assets of \$190,367,409, liquid assets amount

to \$69,427,380. Included in them are Dominion and Provincial Government Securities, amounting to \$11,039,325, up from \$7,893,229 in the previous year, while Railway and other Bonds, Debentures and Stocks stand at \$5,020,059, as against \$4,507,688. Canadian Municipal Securities and British, Foreign and Colonial Public Securities other than Canadian amount to \$13,153,757, practically the same figure as a year ago.

During the year the Capital of the Bank was increased to \$10,500,000, up from \$8,400,000. In the same period the Reserve Fund has also increased to \$9,450,000, up from \$8,400,000.

The Profit and Loss Account also contains a number of interesting features. Even during the period of lessened activity, all the dividends have not only been comfortably earned, but the Bank has, in addition, been able to pay a bonus to shareholders. Profits for the year amounted to \$1,402,820. In addition there was received as premium on new stock \$1,050,000. The amount brought forward from the previous year was \$260,744. This made the total amount available for distribution \$2,713,595, which was appropriated as follows:

Dividends and Bonus.....	\$1,273,635
Government War Tax on Note Circulation.....	\$ 96,585
Transferred to Reserve Fund from Premium on New Stock.....	1,050,000
leaving a balance to be carried forward of	\$293,375.

The principal items in the general statement of assets and liabilities show as follows:

Total assets.....	\$197,387,855
Liquid assets.....	69,427,380
Current loans.....	109,183,592
Loans to cities, towns, municipalities, etc.....	3,085,602
Deposits not bearing interest.....	28,733,831
Deposits bearing interest.....	120,904,549

ROAD DEVELOPMENT IN TRANSVAAL

(Continued from page 179).

The work consists of 9-in. foundation of stone, 4-in. to 6-in. gauge, consolidated with a 12-ton steam roller. On this is laid a finished surface of 4-in. broken stone, 2½-in. gauge. Stone is obtained from mine dumps, some of which are on the roadside, while others are no further than one to two miles distant from the work. This stone being from 4-in. to 10-in. in size, it is readily handled and the costs are consequently comparatively small.

In spite of the comparatively low costs, this road is expensive, owing to the reef stone (quartzite) being too soft and unsuitable for road purposes.

In order to produce satisfactory results it will be necessary to make use of better material and construct the road of tar-macadam or concrete where the traffic is heaviest.

The average cost per mile without foundation, and allowing for a 21-ft. roadway is:—

Initial cost.....	\$7,060
Maintenance, 20 years @ \$100 per annum.....	2,500
Resurfacing 6 times.....	38,500
<hr/>	
Total.....	\$48,060
Average cost per year, \$24,030.	

Haulage.

Transport plays an important part in the matter of costs.

Scotch carts (box carts) of 27 cub. ft. capacity are more generally used than any other class of transport.

During the past two years mechanical haulage has been used with success, and it is the intention to extend its use at an early date. Five-ton steam wagons have brought costs down from 10c to 12c per ton mile, as against 18c to 25c with annual transport. Given a large enough programme to warrant special loading facilities, the writer is convinced that very great saving in cost can be expected from this class of transport. It has not, however, been in use long enough to permit of definite conclusions as to actual savings being arrived at.

Conclusion.

The writer has briefly dealt with some practical difficulties to be overcome in a country having a short road history. These difficulties are all the greater and require prompt action owing to the fact that progress calls for a roads system that will at least ensure safe travel between centres by both fast and slow methods. Mechanically-propelled vehicles must play an important part in the future development of all civilized countries. This applies more to South Africa than many other parts of the world where distances are not so great and the railway system is more highly developed. While it may not be possible to meet the requirements in full, there is reason to hope that in the near future transport costs will be reduced 50 per cent without placing an undue burden on the community, affording it an opportunity of deriving the benefits which modern science has placed within reach.

CANADIAN MUNICIPAL JOURNAL

TRADE DEPARTMENT

To Municipal Executives, Secretary-Treasurers and Engineers:

We are about to organize a TRADE DEPARTMENT in connection with the Canadian Municipal Journal; the idea being to briefly explain with illustrations, those commodities in the Journal's columns that are applicable to and used in municipal construction, public works and municipal offices.

The commodities will cover a wide range, from an electric light standard to a street sweeper, and will include:—

Architectural Supplies.	Electric Wires.	Pavements.
Artificial Stones.	Engineering Supplies.	Police Supplies.
Automatic Telephones.	Engineer's Apparatus.	Road Machinery.
Batteries.	Engraved Bonds.	Road Preservatives.
Belting.	Fire Alarms.	Road Rollers.
Boilers.	Fire Alarm Supplies.	Scientific Instruments.
Bond Papers.	Fire Engines.	Sewer Supplies.
Bridges.	Gas Engines.	Steam Engines.
Cables.	Gas House Supplies.	Street Names and Numbers.
Cast Iron Pipe.	Jail Cells.	Street Sprinklers.
Concrete Steel.	Playground Apparatus.	Safes and Vaults.
Concrete Mixers.	Lighting Apparatus.	Stationery.
Cement Supplies.	Lithograph Work.	Telephones.
Concrete Reinforcements.	Meters.	Telephone Supplies.
Culverts.	Office Supplies.	Vaults.
Dust Preventatives.	Office Apparatus.	Wire Apparatus.
Electric Supplies.	Ornamental Iron Work.	
Electric Motors.	Numbers for Streets.	

The purpose of the new departure is not propaganda for any particular commodity or device but to bring to the attention of civic officials and executives a few of the many improvements which are specially adapted for municipal purposes.

The Trade Department will introduce itself by taking up a section of an early issue of the Journal, in which will appear illustrated talks on those things that will help in municipal construction and maintenance.

C. V. ROGERS, Secretary.



Fifty-Eighth Annual Meeting of The Merchants Bank of Canada

Sir H. Montagu Allan, the President, Draws Attention to the Principal Features of Bank's Progress During Year of Expansion—Bank Now Has 400 Branches and 2,997 Shareholders.

D. C. Macarow, General Manager, States That a Certain Optimism is Not Only Warrantable and Desirable, But Even Essential—Reports Gain of \$7,000,000 in Interest Bearing Deposit For Year.

The fifty-eighth Annual Meeting of the Shareholders of The Merchants Bank of Canada marked the close of a satisfactory year for the Bank. The annual report indicated that business had been well maintained during the period of readjustment.

Sir H. Montagu Allan, the President, in his address on behalf of the Board of Directors, dealt particularly with the main features of the progress of the Bank during the past year and pointed out that there were now 400 branches. In addition, there was a steady increase in the number of shareholders of the Bank, the total number now being 2,997, as against 2,622 a year ago, an increase during the year of 375.

D. C. Macarow, the General Manager, in a constructive address, took the view that at this stage of Canada's development a certain optimism was not only warrantable and desirable, but, indeed, essential, for it begets that stimulating measure of constructive effort energy and courage through the application of which the obstacles, the country now has to face would in due course be more surely and readily overcome.

Mr. Macarow also referred to the general business of the Bank and pointed out the large measure of assistance which was given to the Industries of the country, including support in full measure, to our largest individual source of production and wealth—agriculture. This is reflected by total current loans and discounts of \$1,09,183,000.

At the moment special reports of the Bank indicated that crop conditions throughout the country were at the present exceptionally promising.

Report of Board of Directors

The President, Sir H. Montagu Allan, in presenting the Annual Report, spoke as follows:—

I beg to submit the Fifty-eighth Annual Report and Statement of The Merchants Bank of Canada for the year ending the 30th April, 1921, together with the statement of the Profits for the same period.

The general depression in business which has been felt to a greater or lesser degree in every country in the world for some months past has affected the business of the Bank to some extent, but we hope the low point of the depression has been passed, and that there will soon be a change for the better. In the meantime, although we do not feel there is any cause for anxiety in regard to the future prosperity of this country, we feel called upon to advise our customers to be very cautious before undertaking new commitments. The coal strike in England, which will no doubt result in the loss of a great deal of trade, and the unrest and discontent which seems to prevail in nearly all the countries of Europe, give rise to serious financial problems, which have got to be reckoned with, but no man in this country, who is strong and healthy, can afford to be a pessimist for any length of time. The known and undeveloped resources are sufficient to insure future prosperity.

It is gratifying to be able to tell you that our London Office, which was referred to last year as a new venture, is now well established and is building up a valuable and profitable connection.

In New York we have acquired an excellent building in the heart of the financial district, No. 38 Wall Street, and our Agency was established there on the 28th March last. The building has been remodelled to suit our requirements, and as a result of the change, we anticipate increased business and added prestige for the Bank.

We moved into our new office on King Street, Toronto, early in May, and we are satisfied it will be appreciated by our customers and all those who are interested in the Bank, and we hope when any of the Shareholders are visiting Toronto they will not fail to see it. The building as well as the location, is a great improvement over our former premises, and we confidently expect corresponding results. We were fortunate in having let the contract before the advent of the very high prices for labor and material.

Bank Has 400 Branches

During the year we opened 12 new Branches and established 11 sub-Agencies on regular Branch basis. Three Branches were closed, while 12 sub-Agencies were opened and 8 closed. Our total number of Branches is now 400.

In order to provide for our growing business in the uptown district of Montreal and to prepare for future requirements, it was deemed advisable to acquire another uptown site on St. Catherine Street, and we have accordingly purchased the northeast corner of St. Catherine and Drummond streets, a site probably unequalled in point of location. It is the intention to erect thereon a suitable building that will afford every modern banking facility for that busy district.

As mentioned in last year's report, a further issue of \$2,100,000 of new stock was made, making the paid-up capital of the Bank \$10,500,000 and by the transfer of the premium on the new stock to the Rest Account, the Rest now stands at \$9,450,000.

The Shareholders of the Bank now number 2,997, as against 2,622 in 1920, being an increase of 375 during the year.

We have to record with deep regret the loss by death of three of our Directors, two of whom were Vice-Presidents, Mr. K. W. Blackwell, Mr. Andrew J. Dawes, and Mr. Thomas Long. Mr. Blackwell had been a Director and then Vice-President of the Bank for some years, and was a man of very high character and a most lovable disposition. He acted in my place during the four years I was absent in the affairs of the Bank, and his loss was very greatly felt by all of us. Mr. Andrew J. Dawes was appointed Vice-President in his place, and during the few months he occupied that position his good judgment was of great assistance on many occasions, and his death was very deeply regretted. Mr. Thomas Long had been a Director and our Ontario representative for many years. Our business in that Province has shown satisfactory progress, which in no small measure was due to Mr. Long's exertions on our behalf.

New Members Added to the Board

The position of Vice-President was filled by the appointment of Mr. F. Howard Wilson, and the vacancies on the Board were filled by the appointment of Mr. John Baillie, Mr. Ross H. McMaster, and Mr. Norman J. Dawes. These gentlemen are all well known business men of high character and standing in our community, and I am sure their advice and assistance will prove very valuable in the management of the affairs of the Bank.

We, in Common with the Directors of the other Banks in Montreal, subscribed on behalf of the Bank to the Fund raised for McGill University by the campaign last autumn. We felt called upon to do this, as we are greatly indebted to the University for the course of lectures on Banking and for the lectures in the School of Commerce. This School has developed into an important part of the Faculty of Arts. We consider the work done by the University in educating our men in all branches, including Applied Science, has a large bearing on the business of the Bank from the fact that the prosperity of the Bank is bound up in the prosperity of Canada, and it is only by the education of the young men that the progress of the country can be maintained in competition with the other nations of the world. We hope our action will receive your unanimous approval.

The Directors have pleasure in stating that the unanimous members of the staff, as a whole, have performed their duties in a satisfactory manner, and they recognize that the success of the institution is largely due to their loyalty and co-operation.

All the various offices of the Bank have been inspected as usual during the past twelve months.

The General Manager's Address

The General Manager, Mr. D. C. Macarow, in rising to make his annual address, was received with much applause by the Shareholders. He said:—

Following the President's concise yet comprehensive review of the situation, as reflected in the year's statements, there is little left for me to add beyond, perhaps, a word or two by way of amplification.

It will be observed that in comparison with last year's figures our Total Assets show a shrinkage of about \$7,000,000, or, roughly 3½%, which in view of all the surrounding circumstances, must be regarded as a satisfactory showing, the liquid position being well maintained the while.

The trend of our interest-bearing deposits for the same period has been steadily upward, an increase in that Department of about \$7,000,000 being shown, but this gain has been more than offset by the decline in the total ordinary deposits. A year ago, however, under the heading of Demand Deposits a sum of about \$8,000,000 stood to the credit of the Government in connection with Victory Loan payments. This amount, which, of course, was of a purely temporary nature, was withdrawn during the year so that, after making allowance for it, the Total Deposits and Total Assets about held their own, a satisfactory achievement we have no doubt you will agree.

Current Loans and Discounts, apart from loans to cities, towns, municipalities and school districts, stand at \$109,183,000 as against \$113,198,000 last year, a reduction of \$4,000,000 in the twelve months' period. It will be seen, therefore, that this Bank continues to extend its ample share of assistance to the industries of the country, including support, in full measure, to our largest individual source of production and wealth,—agriculture.

Crop Condition Encouraging

In this latter connection it may be said that the situation in Canada suffered severely by the disappointing out-turn of last year's Western crops. Many of the farmers who suffered crop failure, or partial failure, were facing the adverse condition for the second and even, in numerous cases, the third year in succession, while those who reaped good yields saw their prospective profits largely swept away by the declining value of their products, with the result that "carry-overs" have been many. Advances, however, for legitimate agricultural purposes are inherently safe and in all deserving cases our support as it properly should be has been ungrudgingly continued to our large and growing clientele amongst the farming community.

Crop conditions throughout the country are at the present moment exceptionally promising. That this year's actual results may measure up to present expectations is "a consummation devoutly to be wished," for much depends upon it.

If I may say a word as to general conditions it will be one of tempered optimism, having a due comprehension of the many difficulties which require to be met but having, at the same time a proper appreciation of the actual and potential riches of this country. At this particular stage in our development a certain optimism is, I venture to think, not only warrantable and desirable but, indeed, essential, for it begets that stimulating measure of constructive effort, energy and courage through the practical application of which the obstacles we have to face will, in due course, be the more surely and readily overcome.

Reaction from the organized, or, rather, disorganized conditions of war has, no doubt, created a wide and somewhat varied looseness of thought and word and practice, but it may now be safely affirmed that the situation is steadying down; that the outlook is not without its hopeful and constructive signs, and that a number of basic business forces are actively at work, quietly but surely building up a sound, economic and financial foundation for the years to come.

Views Situation With Tempered Optimism

There are indications that the monetary position, broadly speaking, is less stringent and that the general liquidity of credit now in evidence is continuing to develop further.

Supply and prices are becoming broadly co-ordinated to demand, though it must be said that retail prices are not keeping step with wholesale in the downward movement. A levelling in this respect, it is obvious, must take place (as sooner or later it will) before the deadlock between buyer and seller can be effectively broken and activity in trade supplants stagnation.

As these developments are fulfilled, as wages and labor are re-aligned to new conditions and as business finally absorbs the varied losses of deflation, stabilization on the new level will become an accomplished fact and progress along sound and more enduring lines may be confidently looked for.

Altogether, and in a word, it is not difficult to be an optimist as to the future of "Canada Unlimited," to borrow the apt expression recently used by an eminent Canadian.

In conclusion I would like to express, which I sincerely and unaffectedly do, my endorsement of the President's words of appreciation as to the devotion to duty and general efficiency of the staff of the Bank, evident, in a marked degree, during the strenuous and exacting transition period through which we have been moving during the course of the past year or so.

Annual Report Adopted

There being no discussion by the Shareholders the President then put the motion for the adoption of the Annual Report, which was unanimously carried.

It was moved by Mr. John Patterson, seconded by Mr. W. B. Blackader, that Messrs. Vivian Harcourt and Gordon Tansley, of Deloitte, Plender, Griffiths & Co., be appointed auditors of the Bank, to hold office until next annual meeting. The motion was unanimously adopted.

Board of Directors

On motion of Mr. Alfred Piddington, seconded by Mr. S. M. Baylis, Messrs. John Patterson and Colin Campbell were, by unanimous vote, appointed scrutineers, and directed to cast one ballot for the election of the following persons as Directors:—

Sir H. Montagu Allan, Mr. F. Howard Wilson, Sir Frederick Orr Orr-Lewis, Bart.; Hon. C. C. Ballantyne, Mr. Farquhar Robertson, Mr. Geo. L. Cains, Mr. Alfred B. Evans, Mr. T. Ahearn, Lt.-Col. Jas. R. Moodie, Hon. Lorne C. Webster, Mr. E. W. Kneeland, Mr. Gordon M. McGregor, Mr. John Baillie, Mr. Norman J. Dawes, Mr. R. H. McMaster.

The ballot having been cast the Directors as named were declared to be elected.

Vote of Thanks

Mr. Colin Campbell:—"Before this meeting adjourns I wish to propose a vote of thanks to the Chairman and the Directors of the Bank for the able manner in which they have carried on the work of the Bank during the past year, which has been one of unusually complex difficulties. I am sure we are all thankful for the report they have presented to-day, and that if they keep on presenting such reports we shall keep on thanking them."

This vote of thanks was immediately carried, with applause.

The President:—"For myself and the Directors I must express our gratitude to you for this expression of appreciation of the work we have done during the past year. It has been a difficult year during this reconstruction period, and there have been many anxieties connected with the management of a Bank of this magnitude. But on the whole everything has gone very well, and I thank you for this renewed expression of confidence and approval."

This concluded the business of the meeting, which then adjourned.

Election of Officers

At a subsequent special meeting of the Directors, Sir H. Montagu Allan was re-elected President, and Mr. F. Howard Wilson, Vice-President.



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J. N. GREENSHIELDS, K.C., President.
J. W. PYKE, Vice-President.
F. W. TOFIELD, Manager.

■ ■ ■

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BANK OF MONTREAL

Established Over 100 Years

CAPITAL (PAID UP)... \$22,000,000
REST \$22,000,000
UNDIVIDED PROFITS.. \$1,251,859
TOTAL ASSETS \$560,150.82

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More Proofs That All The Strong Claims Made for *Super Cement* Are True

LAST year, Super Cement—the discovery of a leading English Engineer—was introduced to the Canadian building trade.

Very strong claims were made for Super Cement. It was claimed that Super Cement could make a stronger and denser mortar and concrete—and could make an absolutely waterproof job.

All these claims have been proven true by results on actual jobs.

PROVEN WATERPROOF AGAINST ODDS.

Gushing water from springs caused trouble in the basement of the Federal Government Customs Building (Connaught Building), Ottawa.

Here was a good place to test Super Cement against heavy odds.

So, at the places where the water came through a space was chipped out of the wall and a thick mortar of one part Super Cement to two parts river sand was used.

In every case, Super Cement kept the water out, and the basement is now dry and is used for storage.

STEWART COMPANY WATERPROOFS A STORAGE TANK.

The Canadian Stewart Company, Limited (Contractors), had a basement tank which had been previously treated with a membrane waterproofing system but was leaking in numerous places. They plastered Super Cement mortar on the inside. All the leaks were stopped.

The fact that the Super Cement mortar bonded perfectly to the old concrete they considered noteworthy, considering it was applied on the inside of the walls.

The big new Union Station at Toronto developed leaks in the basement walls. They were plastered with Super Cement and the leaks stopped.

STOPS LEAKS IN WALLS

The concrete walls of the Avenue Road Concrete Viaduct, Toronto, permitted water and dampness to percolate through. They were plastered this time with Super Cement mortar and are now waterproof.

LEAKY FOUNTAIN WATERPROOFED

E. R. Rolph, Architect, Toronto, had a garden fountain the basin of which would not hold water. Mr. Rolph states that the walls of the fountain were of crude masonry and in very bad shape, and the conditions would not have been worse.

They were repaired with Super Cement and the fountain filled with water 24 hours after application. The

fountain proved absolutely water-tight and has given perfect satisfaction.

EARTHQUAKE VAULTS MADE DRY.

In the Royal Observatory, Ottawa, are deep vaults in which are kept the seismograph instruments for recording earthquakes. Being so far below the surface, these vaults and connecting tunnels were very damp, with water trickling down the sides.

But Super Cement mortar was applied as a plaster on interior faces of walls, floors and ceilings, and the vaults and tunnels were made waterproof.

FLOODED CELLAR NOW DRY

The Rapid Electrotpe Company had a brick basement, laid in Portland Cement mortar, in their Montreal plant. A portion of it was flooded with water forced by a considerable pressure from some unknown source.

Super Cement mortar of one part cement to three parts sand was carefully applied in two coats about $\frac{3}{8}$ " thick. The treatment proved effective. The flow of water has been completely stopped. The interior is now quite dry.

WATERPROOF DEPOSIT VAULTS.

The Union Trust Company, Toronto, wanted to build the best possible Safety Deposit Vault. They wanted it absolutely waterproof. So they built it of Super Cement, using 70 barrels.

Shortly after the vault was completed, a rainstorm flooded the adjoining parts of the building, but water did not penetrate the walls of the vault which remained absolutely waterproof.

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It cannot be stated too emphatically that Super Cement is **not** a cement to which a mere water repellent or pore-filler has been added. Super Cement does all the waterproofing itself. It is made by a new and improved process, during which specially treated gypsum is combined with the cement clinker, which increases the hydrative activity of the cement. Super Cement is used just as is ordinary Portland Cement in making mortar and concrete.

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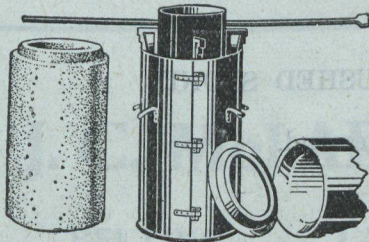
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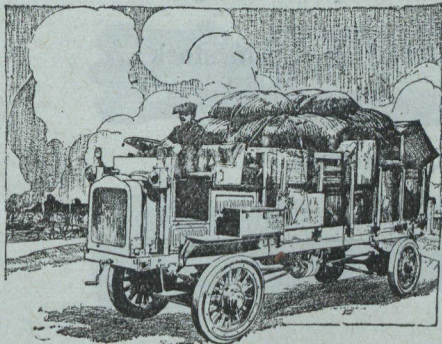
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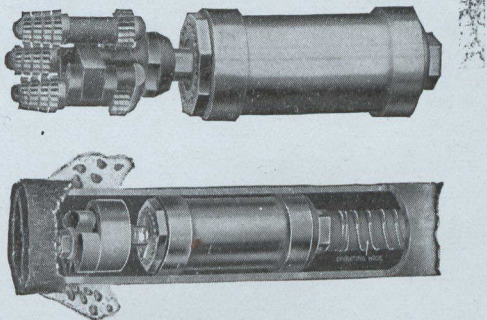
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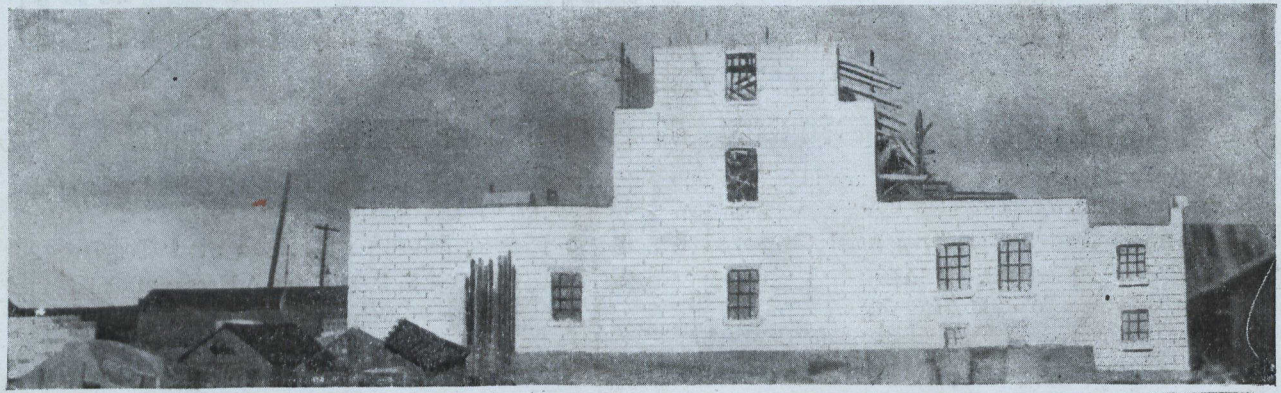
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"The International Limited" leaves Hamilton 7.50
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5.50 p.m.
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A recently constructed dairy building at Gananoque, Ont.



The manner of laying Hydro-stone is here shown. The workman in the right foreground is setting the pre-cast blocks in cement mortar—his helper, working inside the foundation, is placing a row of blocks in readiness for laying.

One Development of the "Concrete Block" Idea

ALWAYS recognised as possessing certain well-defined advantages from a utility standpoint, the Concrete Block has greatly increased the field for which it is adapted, by reason of recent developments whereby architects and engineers have been enabled to employ it where appearance is an important requirement.

The Hydro-stone block shown herewith is molded under a heavy pressure—which makes it of high quality. It is possible also to secure it in a large variety of surface finishes at a minimum of expense. More than three hundred houses in the Halifax reconstruction work are of this type. The blocks in the building shown here were made by Canadian Hydro-stone, Limited, Montreal, for Eastern Ontario Milk Products, Limited; Monks, Manhard & Dawson, Engineers and Contractors, Montreal.

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