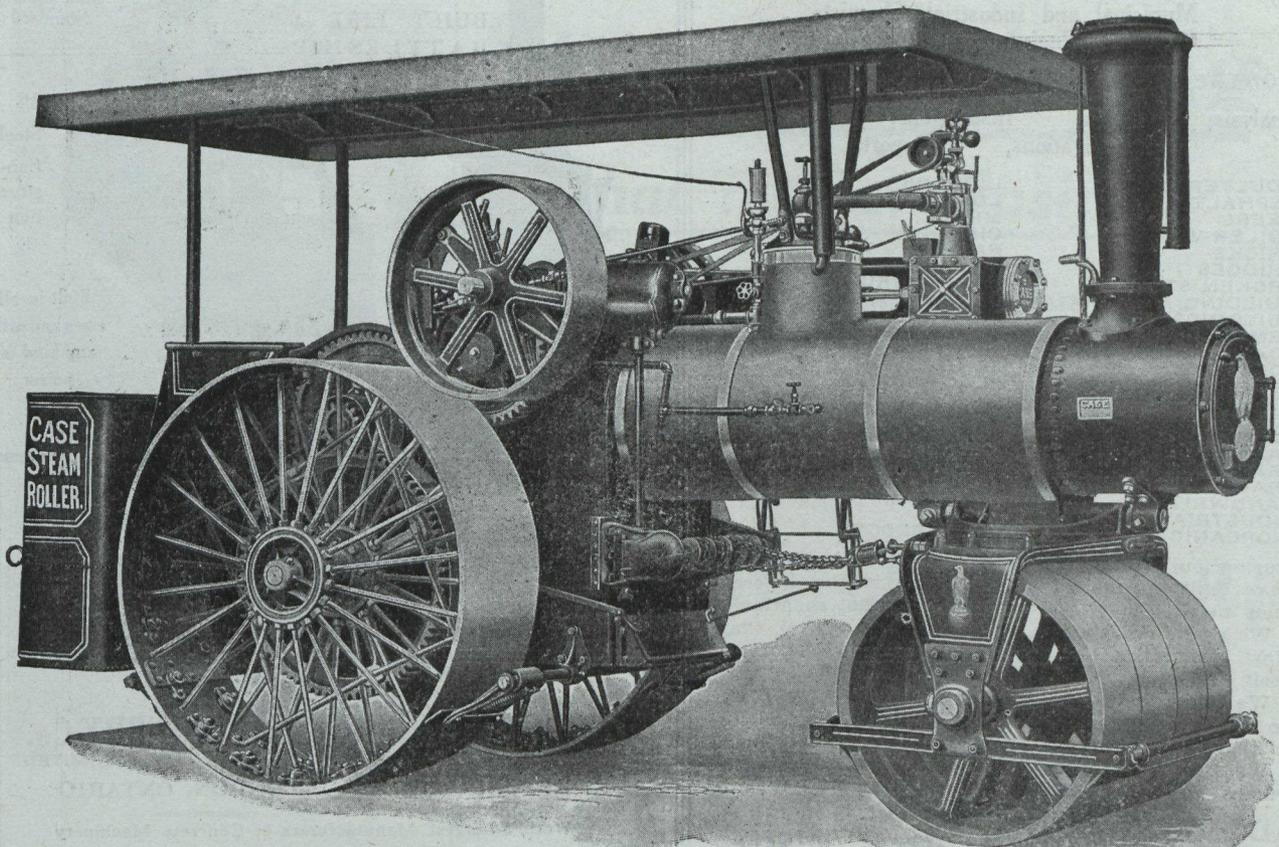


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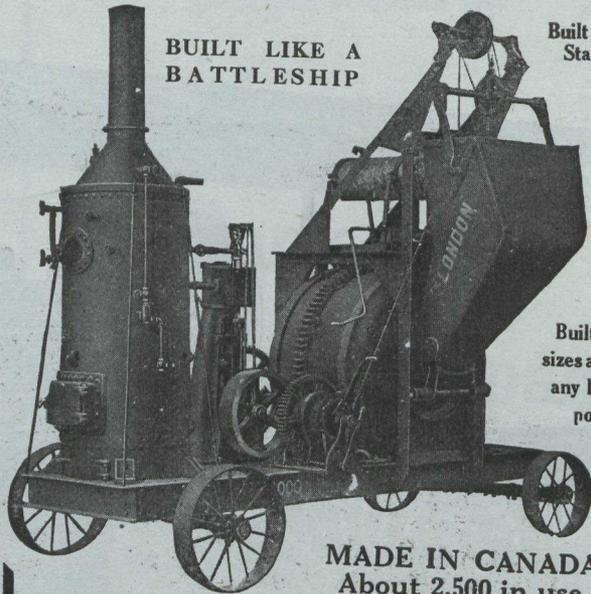
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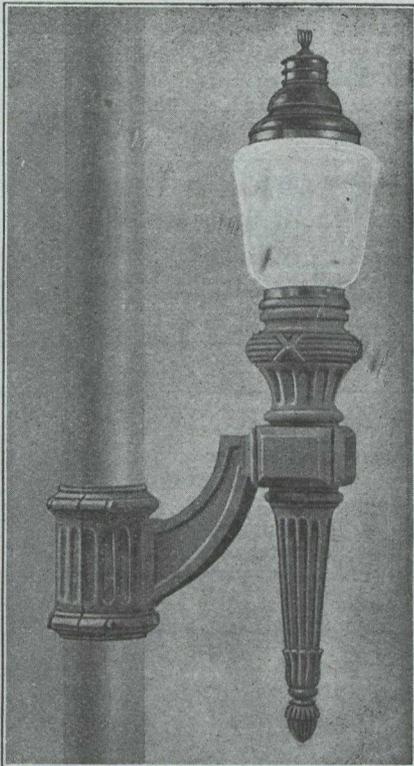
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More Food Wanted

FRED ABRAHAM.

(Chairman Vacant Lot and Home Garden Section, Food Controller's Office.)

More and more plainly the stern need for more food in the world is coming to be realized by Canadians. There was no difficulty from the first in getting our people to understand that shells and high explosives were part of war. But food? The thing does not appeal so directly, it would seem. The very newness of the thing we have learned to know somewhat as Food Control had in it something disconcerting. New terms, new ideas, new strings of ideas even, unthought of as the German military system in our peaceful Anglo-Saxonism, have turned up unexpectedly until the public has been justified in semi-stupefaction

But it is time the dream effect passed. Food measures all over Canada, in the little village as in the greater cities, if possible, must be undertaken. It is the only thing that will at once help the fight in Europe and cut down once and for all the almost intolerable burden of the cost of living at home.

This double concept has been clearly in the design of the Canada Food Board in its appeal to the municipalities, and every organization in every municipal area, to grow more foodstuffs in Canada this year and then again to grow more. In fact, there is no limit to which resources should be used. It is not a fad. It is a grim essential towards the victory that seems at times to recede with the passing months.

A growing realization, it must be repeated, of the urgency is becoming apparent. From all over the Dominion the Vacant Lot and Home Garden section of the Food Board, under the advice of Mr. Frederick Abraham, of Montreal, is receiving information that tends to encourage. An estimate before the close of March is naturally a little premature, but it is evident that the area and number of lots

under cultivation, counting also the home gardens, would be double that of 1917.

The municipality of Galt, for instance, will comprise 600 lots so worked this year as compared with 200 last year. Windsor reports "double the old area." Fort William is another striking case of fresh enthusiasm.

So far as the Food Board is concerned it must obviously devote its attention in a Dominion-wide plan to general promotion, leaving it to the local organizations to carry out detail. The Board especially commends the vacant lot associations to work in cordial co-operation with the provincial departments of Agriculture. So, too, the individual is advised to join a local association. If an affiliation of associations can be effected, so much the better.

The junior section of the work is among the most promising. By encouragement of the Provincial Ministers of Education school children will be doing much more this year than ever actually to grow things that can be eaten. No seed can be supplied: that would be outside the scope of even a municipality possibly, but some of the municipalities are arranging to do the ploughing of the lots for applicants. Most, however, charge a small fee.

It is particularly the endeavor of the Canada Food Board to work in close unison with provincial bodies. Associations or individuals should immediately get into touch with these. But again and again it should be pressed home to the heart of the people: the need for more food as a strict war provision as much as big guns and shells are war, is more urgent in 1918 than it was in the three war years that have gone by. It is the last word of the Canada Food Board. Can the individual be adequately roused to its tremendous import in time?

"Germany's Economic Forces"

In view of the reported amalgamation of some of the German banks, notably the Dresdner Bank, a pamphlet issued by this bank in 1913, to celebrate its fortieth anniversary, is of interest.

The various phases of the subject are taken up fully, the first section relating to population. In this, as in the other sections, comparative figures of Germany's rivals are given.

The increase in population between 1875 and 1910 is given as follows:—Germany, 52 per cent; United Kingdom, 37; France, 8. The excess of the births over the deaths is: Germany, 13.6 per cent; United Kingdom, 11.00; France, 1.8.

The horrible congestion of Berlin is shown by the figures of increased population: Berlin, 86.3 per cent; London, 19.9; Paris, 28.9.

A very significant omen is observed in the occupations of the German people, for while 42.5 per cent were engaged in agriculture in 1882, this had dropped to 28.6 in 1907.

It is pointed out that the "rapid increase of the population depends solely on the excess of births over deaths, not on immigration."

The paragraph introducing the subject of "Finances" is somewhat boastful, and calls attention to Germany having "undertaken greater economic tasks than other countries" which include "not only national defence, administration, education and health, but workmen's insurance, agricultural betterments, and other social and economic improvements."

The increase in revenue in the three countries is shown thus, in millions of marks:

	1881.	1911.
Germany	2860.4	8534.0
United Kingdom	1714.4	4166.6
France	3028.4	3555.8

The national debts, per capita, in marks, are: Germany, 316.7; United Kingdom, 330.3; France, 666.1; United States, 45.7. In this table the United States appears for the first time.

The next paragraph has an amusing title. It is, "Peace Guarantees." It reads, "Germany provides ample protection for the maintenance of her economic life. Although the expense thus entailed is weighty, the capital amount spent on army and navy is less than in the neighboring European countries"

Frankly, this statement throws doubt on the whole book,

especially when the figures are given of the expenses of the army and navy, as follows:—Germany, 21.17 marks per head; England 32.18; France 27.08; United States 12.41. Considering the vast army and large navy with which Germany commenced the great war, it seems as if this innocent paragraph in the statement of a highly respectable bank, were really so much camouflage. It seems almost likely that this was issued, like so many other public propaganda, to lull the world into a false sense of security, by showing how very little preparation Germany was making against the possibility of a war. Really, when this appeared, the reader might almost see the dove of peace resting upon the Kaiser's shoulder.

Other tables in the same paragraph show that Germany had an army establishment of 656,144 men; United Kingdom, 186,400; France, 563,596; and—perhaps to show how little the United States really counted—91,783 for that country.

In view of the threatened shortage of timber in this country, a paragraph from the section on Agriculture is of special interest: "Characteristic of Germany is its developed silviculture, especially in mountainous districts. For decades no wood have been destroyed in Germany, but many a tract of unproductive land has been afforested. About 50 per cent of all the forests belong to the State, or to municipalities. The entire forests of Germany have a probable value of nearly 10 milliards of marks, bearing interest at about 3½ per cent."

Again: "The favorable crop returns must be attributed to the general spread of scientific methods and agricultural colleges, as well as to the increased use of chemical manures. She alone uses as much potash salts as the rest of the world together."

Another typical boast is found in the article on Education: "The people of poets and philosophers has become one of investigators and inventors. Economic production, based on exact scientific investigation, is the keynote of German industrial progress."

The progress in finance is shown in that of the Dresdner Bank itself, which, starting in 1873 with a capital of 9,600,000 marks, had a capital of 200,000,000 in 1911.

It will be very interesting to read a similar pamphlet, prepared by the Dresdner Bank, say two years after the close of the war. If it is written frankly and truthfully, there may be some widely different statements from the ones under discussion.—H. BRAGG.

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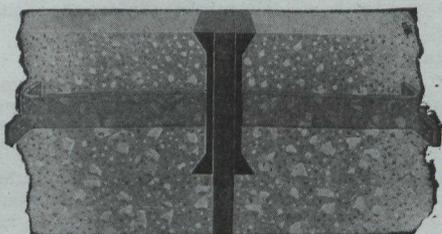
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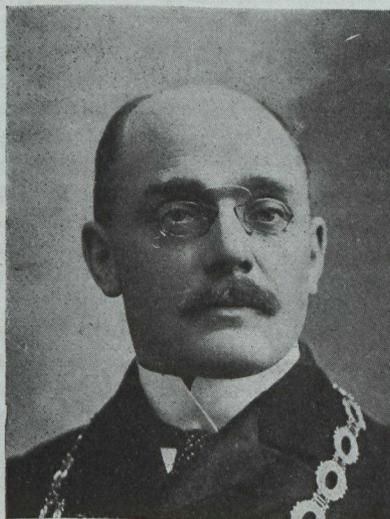
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REINDEER BREEDING IN CANADA.

In another part of the issue appears a very interesting article by Mr. Harry Bragg on the subject of reindeer as a new means of helping to solve the problem of greater production of food. It would appear that one of the difficulties in the raising of domesticated cattle at this time is the shortage of food, but in the breeding and raising of reindeer there would be no such difficulty for the reason that reindeer will thrive and multiply on the moss to be found in the great north lands of this country. According to reports correlated and shown in Mr. Bragg's article, reindeer breeding has become one of the most successful industries of Alaska, and equal success has been attained in Labrador.

It is true that the Canadian government tried the experiment of introducing reindeer into Canada and failed, but for very good reasons, and it does not follow at all that if this very useful animal was introduced again it would not be a success. We believe with Mr. Bragg that great success would attend a second experiment provided proper precautions were taken to see that the reindeer was placed in its proper latitude. Think of it. Here is a country with thousands of miles covered with the natural food of an animal, every part of which is badly wanted by the citizens of Canada, and yet because of the failure of an early experiment stupidly handled, the animal itself is absent, though in the same latitude another country is successfully breeding it by the thousands.

To our mind, the breeding of reindeer should be taken up seriously by the authorities at Ottawa, for is not the slogan now greater production of food-stuffs, and we would suggest that instead of the government being stampeded into some of the very expensive experiments for land cultivation, it would set aside a modest sum, place it at the disposal of someone who knows all about reindeer breeding with instructions to act, this country would soon be running a profitable industry and at the same time doing much to solve the food problem.



EX-MAYOR FRED COOK,
 Vice-President, St. John Ambulance Association.

COMPETITION IN FIRST AID.

We draw the attention of all municipal councils in Canada to the competition in first aid that the St. John Ambulance Association is holding in the autumn for the special benefit of all police officers and railway men in the Dominion (see announcement in another part of this issue). Handsome shields will be offered by Lord Shaughnessy and Dr. F. Montizambert, C.M.G., I.S.O. (First President of the Association) for the best men. This competition offers a splendid opportunity to increase the efficiency of our police forces, and one that should be taken advantage of by the councils in seeing that every patrolman in their employ enters the competition. In Great Britain one of the chief qualifications of a constable is a St. John Ambulance First Aid certificate, and the same qualification should pertain in Canada. Particulars of the competition can be had by applying to the General Secretary, 15 Castle Building, Ottawa.

Victoria the Next Convention City

The executive of the Union of Canadian Municipalities have decided to hold the next convention in the City of Victoria, B.C. This will entail some time and some expense on the part of eastern delegates, but it will be worth it all for we have been given to understand that the convention will be taken up with the discussion of ways and means of how the local councils can best carry out their obligations in the war, not only to bring it to a successful issue but to the citizens after, in the way of seeing that in each municipality adequate provision is made for the employment of every one willing to work. This can only be done by preparations being made right now. We have already pointed out in previous issues that the principal industry of Canada during the last three years has been the making of munitions, which of course will cease on the cessation of hostilities.

There has also been a boom in agriculture in Canada these last two years because of the scarcity of foodstuffs throughout the world and because of the nearness of this country to Europe. The demand—at good prices—will be a continuous one for many years to come, so that as the great basic industry in Canada agriculture offers great prospects to the farmer and worker. But the majority of the people in Canada are not agriculturists, and not likely to be, even with all the many inducements that have been and are offered. The white way of the city is too attractive. Yet there must be some scheme to get men back to the land—some community scheme for instance—and a keen rural municipal man may have it at the back of his head. It will be up to him to lay his ideas before the Convention so that concerted action may be taken. It is certain nothing of a definite nature has been done as yet in this matter of making city men into farmers. Possibly one of the weaknesses of the so-called inducements is the matter of wages, which in comparison with the profits of the farmers is miserably small. Be that as it may the problem of agricultural help is a very important one and should be taken up at the Convention.

Then comes the city man, who knows not the farm and having been brought up in the machine shop, factory or office has no special inclination for mother earth — with the exception of his garden — and consequently wants to keep to the city. And this man represents a large proportion of the working population. What is to become of him when war ceases and orders are cancelled? Unless some preparation is made to-day he will be thrown out of employment and become, with his family, a burden instead of a help to the community.

To many the discussion of after-war conditions might seem out of place at this time when we are fighting for our national existence, but a little study will show that it is the bounden duty of the heads of each community to look to the future. National and municipal economic reconstruction must be made as much a feature of Canada's propaganda of nation building as it is of other units of the Empire. The livelihood of the greater part of our population demand it and woe betide the public leaders who have neglected their obligations if this country, in spite of her great resources, is left behind in the race of progress. And let it be understood the public

leaders in this case are the members of our local councils, for the particular reason that they, being in daily contact with the people, know what they (the workers) have to face. This means double responsibility. Surely then the time to take up the problems of reconstruction is now, and the Convention could not discuss a better subject.

In the mobilization of Canada's human and material forces the councils can play a large part. But what part and how? This is a problem that can be best discussed and answered at a gathering of municipal men. There is the question of next winter's fuel. Some councils remembering the experience of their citizens last winter have taken upon themselves to buy a stock of coal, though the action may not be legal, the councils rightly considering that their first duty is the people, whatever the disabilities may be. But still the legalization must be made. There is the question of greater food production which affects every council. There is the question of keeping up municipal credits, not a small matter in these days of increased cost in material and labor, and impossibility of securing cheap money. And there are many other questions directly affecting every municipality in Canada that can only be profitably discussed by the executives conferring with each other, so that there is every need for each municipal council to send at least one delegate to the Victoria Convention.

THE POSITION OF THE MUNICIPAL OFFICIAL.

In another part of this issue Dr. Arthur Wilson, the Medical Health Officer of Saskatoon, deals very succinctly with the position of the municipal official. He maintains, and rightly so, that he does not get a fair chance—no opportunity to show what he can do in the interest of the municipality; no feeling of security for the present and no guarantee for the future. What is surprising to us is that the municipal service of Canada is as good as it is—and taking it all in all, the standard of efficiency of the local public services is really high—when it is taken into consideration that the remuneration is comparatively small and that the officials are subject to all the kicks and abuse that any citizen with an axe to grind may like to make. Dr. Wilson's appeal that the local civic official's job should not only be made more permanent, but that he should be encouraged to fit himself for even better positions deserves the serious consideration of the municipal councils, though we cannot agree with his suggestion that the advancement should be from local to provincial and then to federal positions, for the reason that local government is getting more complicated each year with the consequence that even the under officials must become more proficient, and in a short while only the expert will have any chance to become head of a department. Even to-day, local administration is more complicated and more difficult than the larger fields and requires more specializing, so where is the advancement. But what is wanted, and badly wanted, in Canada is better pay for our municipal officials. It pays the municipality. A good head of a department given sufficient inducement in the way of pay will save his salary many times over in increased efficiency.

AN HONOUR FLAG.

Secretary W. G. McAdoo of the United States Treasury is to present an honour flag to every city, town and village that exceeds its quota in the next liberty loan. As an emblem of patriotic service such a flag will be worth striving for and no doubt local pride will see to it that the local quota is exceeded, for that flag must be flown from the city or town hall. Such an idea of a flag and such an appeal is characteristically American and the municipalities will rise to it. In this each community will realize that it is doing something for the great national cause and is being appreciated accordingly, and good results only can accrue. Secretary McAdoo terms his presentation flag an "Honour" flag and it is well named for though two huge liberty loans have already been more than fully subscribed for it was certainly not the amount of the interest that attracted the American subscribers, the said interest being less than four per cent. It was really practical patriotism and the same term can apply to the next national loan which we understand will bear the same low rate of interest.

The thought came to our mind while we were examining the beautiful picture of the McAdoo Honour flag and all that it implies, that such an emblem, or a similar one, could be made to serve an equally useful purpose in Canada. Not that any flag is necessary to create Canadian loyalty and patriotism. It is there and always has been, as has been so magnificently shown in every one person out of 14 of her population coming forward to take up arms in the present war or over half a million combatants. But when we come to examine local records we find that there is a difference of spirit in communal patriotism. We find that before conscription came in, certain communities had not only given every man fit to serve but every dollar it could raise. Such communities deserve special recognition at the hands of the nation and though a flag may not cost much it can and would in many cases signify to the relatives that their boys' services and sacrifices were appreciated and to the community such a flag given under conditions and for such a purpose would be for all time an emblem of pride.

PROPOSAL FOR A MUNICIPAL BUREAU OF VACANT HOUSES IN CITIES.

To assist those who are in need of suitable housing accommodation, a Municipal Housing Bureau might prove of great value. At such a bureau a register might be kept of all vacant houses and apartments, with full particulars as to the accommodation, rental, etc. Photographs of the houses would not necessarily be required but would frequently be supplied, and this would be a further advantage in facilitating a suitable selection of houses, and limiting the time spent in examination. In cases where houses are in great demand, registration at the bureau might be made obligatory. A small charge (probably not exceeding twenty-five cents) made for each registration would cover the cost of administration. By this means workmen could learn without difficulty, expense, or loss of time, the condition of the housing market in all parts of the city. The advantages which would result from having this information are obvious. The number of houses available at each rate of rental would indicate from time to time either a surplus or deficiency of particular types, and in this way the bureau would be of value to build-

MUNICIPAL EXECUTIVES AND M.P.'S.

There has been much discussion lately as to whether or not municipal executives can also be members of parliament. Frankly we do not believe that any man has a moral right to attempt to serve in both the local and federal parliaments at the one time even if he has the legal right, particularly when a payment is attached to both offices—we use the term payment advisedly for indemnity (the term used respecting the payment of members of parliament) means to those who would evade the spirit of the law relating to dual offices anything but salary or wages. No man can be in Ottawa and his own city or town at the same time, and while it might be possible at times for some members of parliament to better serve the country by staying in their home town, no municipal executive can do justice to the citizens of the city or town in which he is an officer, whether elected or appointed. Municipal government is too intense to-day to allow it to be divided with either provincial or federal affairs, and the sooner stringent provincial legislation is enacted stopping this growing pernicious system of one man holding two or more public offices the better.

THE FORUM.

On page 110 the Forum makes its first appearance. Its success is wrapped up in the personality of its conductor (Mr. Howard Ross, K.C.), who is known throughout this Continent where students of civic affairs meet. To our readers Mr. Ross has already made his bow in a number of excellent articles, and it was to secure a continuation of his ideas on government that we induced him to conduct a "Forum" in the columns of this Journal. The word "Forum" signifies, a place or medium where men can express their ideas openly and frankly, but under Mr. Ross our Forum will also mean constructive thinking, progressive ideas and civic building.

Mr. Ross is something more than a man of theory and fine phrases. He is practical. For a number of years he was an alderman in his native province of Nova Scotia, so that he knows something of the difficulties of local government. He knows the legal difficulties the local councils are up against, so that whatever viewpoint he takes on a particular subject, the reader of the Forum will feel that Mr. Ross is sympathetic towards the practical administration of the municipalities.

ers, and the supply of houses of all types could be more nearly equated to the demand. Housing conditions would no longer be the subject of uninformed discussion. Information as to the true condition would be always available. The evils of unfairly high rentals in one district would be overcome if vacant buildings were available in another equally satisfactory district. The registration form might require information as to sanitary conveniences and interior decoration. The effect of this would be to improve the general condition of the houses, as those in the best condition would, of course, secure tenants most speedily.

As one of the objects is to save the time of those for whom time is money, the regulation requiring registration might apply only to moderate and low-priced houses. The task of securing a new home generally falls upon the mother of the household, and not infrequently this involves a weary task of walking about from place to place carrying the youngest member of the family and neglecting pressing home duties. This could be largely obviated by a carefully planned system of public registration of vacant houses.—G.F.B.

Patronage and Efficiency in Civil and Municipal Service

DR. HARRY WILSON, Medical Officer, Saskatoon.

During these times of struggle, economy and production, the question comes forcibly home to all of us, are we getting the best service from those who are administering the people's affairs in the municipal, provincial and federal governments? One hears a great deal, especially at election time, about incompetent servants, inefficient service, graft, fraud, etc. Nor is it to be wondered at that such is the case if we think of the present system of public service. All the mistakes, graft and fault of administration should not be attributed to the government leader and his associates. Some of these mistakes may be due to those officials who are not elected by the people, but appointed by the ministers and who may prepare the work for the minister in charge of that department of the government.

This problem of civil service is not of minor importance as it is estimated for 1911 that in Canada there are in civil and municipal governments, 76,604 workers. This estimate is probably much lower than the number of public servants which really exist at the present time.

At the risk of being irksome one might mention some disadvantages of the present civil service:

I.—The majority of municipal and government appointments have been made through the personal influence of some individual in power for the sake of friendship or for political reasons and in many instances, very little consideration is given to the appointee's qualifications for the position.

II.—The method of the appointment of the civil servant is wrong and with a bad beginning it is difficult for him to improve as he proceeds with his duties. There is little encouragement offered to the public servant to do his duty well in hope of his obtaining some promotion, because only too frequently, so soon as the power or influence behind him is removed, his term of office expires or he may be tolerated in his present office without the slightest opportunity of getting ahead. The result is, especially in government work, every temptation is placed in his way to make the most of his position for personal ends, and he is expected to make hay while the sun shines.

III.—Again, if the official is cunning, he may contrive to advertise his merits, push himself before the eyes of the public and impress those with whom he comes in contact with his ability. The result is, such men are frequently placed in responsible public offices for which they are entirely unsuited. It may be the position should be held by some quiet studious retiring person working in a back office or laboratory.

IV.—Competent servants are sometimes unfairly discharged. In seven or eight years a good municipal official may be compelled to resign or receive his discharge because, through the faithful performance of his duties, he has created so many enemies who are thirsting for vengeance and constantly striving to dislodge him from office. Such enemies are as a rule political workers and as a result acquire much influence with those elected and who, for the time being, have the authority. These officials, if promoted to another office, would render valuable service.

V.—Under present conditions, resignations of officials take place daily with little or no investigation regarding the reasons for such actions. It costs money to educate and acquaint each official in his new position. A city or government have no right to bear this loss continuously. Why this waste of efficient service without reasonable action to correct conditions?

VI.—Public servants whose efficiency and activities are impaired by old age, are either retained in their office to the detriment of the office or dismissed. In the important executive positions at least, it is a pity to lose practical knowledge acquired during a whole lifetime of service. Such persons might be retained with advantage to the government or municipality in an advisory and honorary capacity with a suitable salary instead of being discharged with or even without a pension.

VIII.—Men of the best ability will not take a government position at present, because the salaries are too small, because they lose their independence and must take instructions from persons who are not qualified to give instructions and because there is a stigma of almost disgrace attached to some of these positions by some people.

Uncertainty, fear and secrecy among the employees of a department, poison and paralyze the usefulness of the mem-

bers of that department. "Putting the 'fear of God' into their hearts as has been said will never accomplish the same good results as if the public servant was inspired to put forward the best in him by quiet confidence and conscientious effort and an intense desire for promotion. Hope of promotion, ambition, desire to better his condition and that of those about him, by rendering better service are healthy normal symptoms and will bear the best fruit.

A suggestion might therefore be made and that is, that promotion for public servants as far as possible should be made from municipal offices, in each department, to provincial and from provincial to federal. Some of the departments in which such promotions might be carried out are, legal or attorney general, police and detection, public health, public highways and roads, department of municipal affairs, finance, etc.

The plans and work of municipal officials are constantly exposed to public criticism—more so probably than those of government officials. Those who stand up against this storm are worthy of promotion. They have acquired practical knowledge in handling men and affairs that should make them valuable servants in their special branch of work in the provincial government. If they have received a good education and training in their department of work from college before entering upon their municipal duties, so much the better, and such a system of promotion as mentioned will attract the best men into municipal service. The essential qualifications for promotion, however, should be a good clean character and the ability to obtain the best results in their line of work for their municipality.

A non-political commission for the province composed of honest, independent and capable men who have closely studied and filed the biography or record of each successful municipal servant should make the appointments and promotions—especially should this apply to the more important government offices. If necessary this commission should travel to the various municipalities to study directly for themselves the method of work and acquire a personal knowledge of the official. Then the best men from all over the province would occupy the important positions in our government.

It has been said that the chief or commissioner of a department should be permitted freedom in the choosing of his assistants and staff, and especially in the choice of those persons in whom a certain amount of executive ability is required. With a certain amount of adjustment and co-operation, this difficulty could be overcome. The head of a department might assist the civil service commission in choosing, by emphasising before the commission, the qualifications, standard of education and experience which are required in a man to successfully fill the position. The civil service commission should have no difficulty in securing a suitable person, specially qualified by previous experience in the required department of work and promote him from the municipal service. The final decision however should remain with the commission, in order that there should be no favoritism or other unfairness in making the appointment.

So too, a dominion commission or department could study the records of those provincial servants who had proven themselves to be men of exceptional ability in their special department of work. Even the present civil service examination for the minor government offices might be abolished. They have the same fault that those examinations in schools and colleges have. A student may have a good memory and acquit himself credibly at the examination and afterwards fail miserably in practice because he lacked more essential qualifications which the examination would not expose. Such a civil service commission could draw together the best men with the widest experience in their special department of work from each province throughout Canada for the benefit of the Dominion as a whole.

As a result of this opportunity for promotion, a type of public servant is produced who becomes a true expert by exerting himself as much as possible in his department of work to attain his ambition. He should be given a reasonable opportunity to improve himself in his work by attending official meetings, visiting other cities and neighboring countries. At present the chiefs of government de-

CANADA MUST BUILD SHIPS TO ENSURE VICTORY NOW AND PROSPERITY LATER.

Canada must build ships. To do so is to help to win the war now and to ensure the permanent prosperity of the Dominion later. When the present struggle is finished, there will be another struggle launched, a fight for markets, a fight for overseas trade, a fight which will not be less bitter because it will be fought without guns and shells. The country that has the ships will have an initial advantage in getting the trade. The country that has neglected to provide the ships will be handicapped because it will start the after-war struggle for overseas markets with an initial disadvantage.

After the war there will be a tremendous demand for shipping to freight rebuilding material and raw material and manufactured goods of every kind to Europe. Every nation will be bidding for tonnage and none will have a surplus. Well for those nations that have been able to provide for themselves in this respect. Canada has this opportunity more than almost any of the Allied countries. The United States is similarly circumstanced, and the world knows how the American people are using their chance. The whole country, from the 49th parallel to the Rio Grande, from the Atlantic to the Pacific, is building ships or helping to build them.

Canada must do the same. She is doing splendid work already but she must do more. The Government policy of a national shipbuilding programme must be rigidly adhered to. It must be strengthened wherever possible. The Canadian people from coast to coast must be told that, next to winning the war, the building of ships is the most urgent call of the day.

Canada must build ships. Her people have won a great prestige by their sacrifices and their endurance in the death grapple with German militarism. They have to maintain that prestige, to uphold in the field of trade the reputation so heroically won in the field of war. The existing shipyards must be multiplied and enlarged. They must be kept working to capacity. They must be supplied with all the capital they need. They must be supplied with all the labor they need. If private enterprise comes to the end of its resources, the industry must be stimulated by Government aid, even beyond the present programme.

In one way or another, Canada must have the ships and the men to operate them, and the ships must be built and the men must be trained now. Immediate action is demand on a far bigger scale than is now being attempted, and it is the duty of the Government to stimulate such action in every possible way. It is the duty of capital to seize what is really one of the finest opportunities it has ever had. It is the duty of the workers to realize what is both a patriotic obligation and a marvellous opportunity.—Frank Wall, in "Shipbuilding and Harbor Construction."

THE CALL OF DEMOCRACY.

"There will never be a free and enlightened state until the state comes to recognize the individual as a higher and independent owner from which all its own power and authority are derived, and treats him accordingly."—Thoreau.

PATRONAGE AND EFFICIENCY IN CIVIL AND MUNICIPAL SERVICE.

Departments would appear to discourage suggestions for improvement in the workings of a department from a junior member. Unfortunately these do not look well upon the office files. Public servants should be told that they are paid for their ideas and every encouragement should be given to them, but ideas of reform must be approved of by the head of the department before they are put into effect. In field work an inspector will understand local conditions better than his chief and his advice should be very carefully considered. If he has grown up with his work, he would be a safe man to give this responsibility.

With a strongly organised department of carefully chosen men who had specialised in their work and had the benefit of both municipal and government experience, there would be created a framework for a government which would give strength, stability and good central authority. Those who are elected by the people will see that such servants will prepare and do their work properly.

DEPENDABLES AND THEIR WORK.

Dr. Elsie Inglis—Women Munition Workers.

Dependability is winning this war.

That sounds good but not too good to be true. Facts warrant the assertion. The great question that faces every woman to-day is: "How many Dependables are there and how do I rank?" The answer to that question shows just how near each one is to the firing line. Women are, to-day, an integral part of the army and navy and are just back of the firing line in France. The reason is because they are dependables.

Some one will say: "Oh! but I do not count! I can't do anything but knit and sew. It takes brains to be a Dependable. "Right you are about the brains but as wrong as can be about your not counting. The war would long since have been won by Germany had there not been, right here in Canada, an immense army of Dependables stretching all the way from Labrador to Alaska and every one of them knitting and serving in the way known only to Dependables. That endless stream of Red Cross supplies that started as soon as war was declared and has never slackened is testimony enough to the existence of Dependables in Canada. The comforts for soldiers bear witness to the fact that there is a dependable generosity in Canada which links it right up to the trenches in spite of the intervening Atlantic.

Being a Dependable consists in the determination to be a Dependable. It was that one thing that marked the difference between Dr. Elsie Inglis, who died last November, and thousands of other women of equal ability and training. It was her dependability which caused her to accomplish a task which will forever be the highwater mark of a Scottish woman's devotion to duty and humanity. It was nothing but dependability that enabled her to lead 8,000 Serbian soldiers safely to England from Roumania by a circuitous route through Finland because of possible ambush laid by the revolting Russians. Transportation, nursing, supplies, everything was superintended by this capable woman, and when the end was gained she paid for the success with her life.

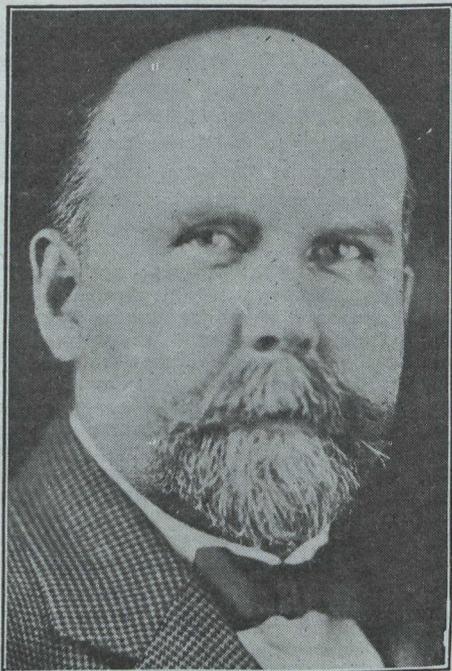
"For every shell you fail to send over ten of us are killed," was the message from the trenches soon after the war began. Germany was sending ten shells to our one. English women read the message and read between the lines also. They know that, sooner or later, it would be their work, their privilege to make those shells. Without even waiting to make sure that anyone else felt as they did about the matter they began preparing themselves to make munitions. They trained along the same lines as men. They were skilled workers when the munition factories opened their doors to women. There is the secret of the wonderful work of support and substitution carried on by British women the world over. They trained themselves and became dependable. One million English women volunteered for munitions making and Canada answered with her thousands of Dependables.

The world with difficulty accustomed itself to the thought of women facing real danger and doing arduous work. Women faced it because of some loved one in the trenches or some grave "over there." Scarcely had the army of munition workers commenced its magnificent work when another army of a quarter million organized to do whole or part-time work on the land. The same spirit of dependability that guided the other women workers characterized this new body. They prepared themselves for the work in hand and resolved to "see it through." Last summer saw the beginning of a land army of women in Canada and the coming summer will witness both an increase in the number of workers and a taking on of more kinds of work because of wide spread organization.

To-day, in England there is almost no branch of work in which women are not employed and in no place have they failed to make good. The quality of their work is excellent and, in some cases, the output has more than doubled that of men. Even quarrying and mining are open to women to-day and, in Canada the same condition will exist if the war continues. But every one knows that the Canadian woman is a real Dependable!

The Forum

Conducted by HOWARD S. ROSS, K.C.



MONTREAL'S COMMISSION GOVERNMENT.

It is rather out of place to ask a resident of Montreal (whose citizens cannot be trusted to govern themselves) to edit a page devoted to government.

Even though it is a temporary arrangement, the appointing of a commission is a very great step backward and particularly at a time when the idea of "self-determination" is in the air and in the thoughts of forward looking people.

Under the new system which goes into force April 2, 1918, the appointed Commission of five will be supreme. The members are to give all their time to the business of the city. They will send to the Council (which is shorn of most of its power) only the annual budget, the supplementary budget, reports for the diversion of funds, appropriation of loans, taxes and license matters, by-laws, **except those relating to municipal employees and matters of annexations and franchises and privileges.**

It is to adopt rules and regulations for its own conduct, hold enquiries as the present Board of Control does, and have all the other powers that the Board of Control now possesses. The duties of the mayor are defined to be those of "the representative of the city" and the legislature very graciously allows him and the alderman jointly and severally to "make representations" to the commission. He presides at council meetings and may vote in case of a tie, and is to be ex-officio member of the council committees which committees are generously allowed to study city problems of their own will or at the request of the Commission.

If the mayor refuses to sign documents, such as by-laws and bonds, etc., within the space of 48 hours, the president of the Commission may sign such documents.

A clause of the charter provides that if the mayor or any alderman or commissioner is responsible in any way for the wrongful expenditure or diversion of money from the use to which it is voted shall be held personally liable, lose his seat and be disqualified from holding office for a period of two years. It would be more apt to be of real service to the voters if the clause provided a penalty for any mayor, alderman or commissioner who voted to divert the income from franchises to private pockets instead of the public treasury.

With such a clause and proper enforcement under it the present absurd position might be reversed, and instead of the city being left to carry on the unproductive services such as sewerage, fire and police, it would enjoy a good revenue from its productive public services to which the citizens pay millions of dollars each year. And under this head it surely would not be unreasonable to include community created land values. Why the difficulty in

getting revenue when the voters earn and pay over so many millions each year for public utilities, including rent? And then after paying such huge sums they are called upon to pay taxes most of the taxes being a penalty upon industry.

The aldermen are to have a term of two years, while the Commissioner's term is practically for life, because it was contended at Quebec the Commissioners "in the discharge of their duties will make enemies." One at once wonders why Commissioners who are carrying on the business of the city in the interest of the voters as a whole should make enemies? On the contrary, if they really acted solely in the public interest (not the public interest as they the Commissioners, or those who appoint them see it, but the public good, as the voters who supply all the revenue see it) they would be acclaimed.

HOME RULE FOR CITIES.

It is perfectly clear now that Montreal is to be managed at Quebec until the voters of Montreal are united enough and insistent that the city shall have ample powers of self-government. The granting of valuable franchises and the authorizing of costly expropriations could not have been made without the consent of the legislature. It does seem strange that this being the case the legislature should disclaim liability for the so-called financial difficulties of the city. It cannot be truthfully said that the workers of Montreal are not earning and paying out large sums for public utilities, the real trouble is they are not paying enough into the city treasury and too much into private pockets.

If the voters had been consulted, they might have chosen the council-manager plan, put forward by the Bureau of Municipal Research. Even the influential organizations really wish. What more logical than to ask the voters? really wish. What more logical than to ask the voters? If they can make a wise choice in the election of a member of the legislature, why cannot they be trusted to select aldermen with powers of self-government?

Since 1832 the cities of Great Britain have been among the best governed in the world, because they have had a large measure of self-government.

The provincial legislature would still have control of matters of general welfare, such as control over elections, laws relating to health, safety, the prevention of crime and education.

In the United States a number of cities have secured commission (elected) government by adopting home rule charters; notably Denver, Spokane, Tacoma, Dayton and Springfield. If the legislature, instead of the council, exercised the power to grant franchises to public service corporations, there would be nothing to prevent the granting of a franchise (as has often been done) in opposition to the wishes of the voters, no matter how responsive the elected council might be. In the United States the state legislatures have been more generous than usual in the granting of wide powers to elective commission governed cities.

In several states the home rule section of their constitution long ago granted to municipalities the right to frame and adopt or amend their own charters by majority vote, as in Washington, Oregon, California, Arizona, Colorado and Ohio, and in those statesman cities began to insert the initiative, referendum and recall long before the commission plan was adopted by them. Some of these cities have not yet adopted the commission plan.

In the United States the elective commission is provided for by general law in twenty-seven states. In New York, Massachusetts, Virginia and Ohio optional laws specify several different forms of municipal government from which cities may choose.

In Michigan, Minnesota and Texas, general laws grant broad home rule powers to municipalities and in most cases these laws provide for the use of direct legislation in local affairs.

PROPORTIONAL REPRESENTATION IN CANADA.

Calgary has adopted it for the election of its aldermen. British Columbia has passed an act which enables its municipalities to use the Hare system of the single transferable vote. Nelson, New Westminster and two smaller municipalities have adopted the system. In Vancouver, opposition is being met, but P.R. has the support of the Rotary Club and the labor organizations.

Sydney B. Johnson, who did splendid service for the movement as General Secretary of the Canadian Society

has resigned, because of pressure of private business. Ronald Hooper, a devoted and diligent worker for P. R. has again become General Secretary of the Canadian Society, which now has an office in the Citizen Building, Ottawa. Daniel Whittel is assistant secretary.

PROPORTIONAL REPRESENTATION IN THE UNITED STATES.

Kalamazoo, Michigan, on February 4, 1918, adopted P. R. under the powers in a special charter under the home rule provisions of the Michigan Constitution. The vote was four to one. So there are now three American cities which elect their aldermen by the Hare system: Ashtabula, Ohio, Boulder, Colorado and Kalamazoo. The seven members of the Council, who are elected at large, choose one of their number to act as mayor with the functions of a presiding officer. The administration of the departments except the legal department will be under the control of the city manager with full power. The first election under the charter is to take place on April first.

Clarence G. Hogg, the general secretary of the American Proportional Representation League, Franklin Bank Building, Philadelphia, who is devoting his life to advocating (effectively) proportional representation, is on a lecture tour in the Western United States.

COMMISSION-MANAGER CITIES IN THE UNITED STATES.

There are sixty cities with this simplified system of government. In addition, there are officers called managers in the following towns, which do not have commission-manager charters or lack some of the fundamental features of the plan: Staunton and Fredericksburg, Va.; Norwood, Mass.; San Diego, Cal.; Glencoe, Ill.; Grove City and Titusville, Pa.; Morris, Minn.; Clarinda and Iowa Falls, Iowa; Clark, S.D.; Tuscon, Ariz.; Roswell, N. Mex.; Terrell, Tex.; Grand Haven, Mich.; Alhambra, Cal.; Altoona, Pa.

There are state-wide laws permitting cities to adopt this plan in Massachusetts, Virginia, Ohio, Iowa, Kansas, Idaho, Montana, South Dakota and North Carolina.

DIRECT LEGISLATION AND THE RECALL.

Practically all commission manager cities have direct legislation and the Recall. About 400 municipalities in the United States have direct legislation and the Recall. As many people as live in Canada have, in the United States, the advantages of direct legislation and the Recall—and the system is being extended steadily for municipalities and state-wide.

THE NATIONAL SHORT BALLOT ORGANIZATION.

The Short Ballot Bulletin, the bi-monthly organ of The National Short Ballot Organization, 383 Fourth Ave., New York, is newsy and interesting. Membership in this progressive group will enable one to receive the literature sent out from time to time.

President Woodrow Wilson is president, Richard S. Childs secretary. Dr. A. H. Hatton, Western Reserve University, Cleveland, Ohio (an ardent advocate of proportional representation) is doing field work for The Short Ballot Organization in connection with their commission-manager (with proportional representation) propaganda.

P. R. IN GREAT BRITAIN.

The clause in the new Electoral Reform Act passed by the Imperial Parliament registers a modest victory for proportional representation which may become a very substantial one. The Government, through Lord Curzon, stated that it is anxious for an experiment with proportional representation.

The clause is as follows:—

Representation of The People Act, 1918.

Clause providing for adoption of proportional representation in constituencies to be recommended by Commissioners:—

1.—His Majesty may appoint Commissioners to prepare, as soon as may be after the passing of this Act, a scheme under which as nearly as possible 100 members shall be elected to the House of Commons at a General Election on the principle of proportional representation for constituencies in Great Britain returning three or more members.

2.—The number of members of the House of Commons as fixed under this Act shall not be increased by any such scheme. For the purpose of such scheme the Commissioners shall (after holding such local enquiries as they may deem necessary) combine into single constituencies returning not less than three nor more than seven members, such of the areas fixed as constituencies in the fifth Schedule to this Act as they may select, but, in selecting these

areas, they shall have regard to the advisability of applying the principle of proportional representation, both town and country.

3.—The scheme so prepared by the Commissioners shall be laid before both Houses of Parliament, and if both Houses by resolution adopt the scheme, the scheme shall, with any modifications or additions which may be agreed to by both Houses, take effect as if it were enacted in this Act, and the constituencies fixed under the scheme shall be substituted, so far as necessary, for the constituencies fixed under the Fifth Schedule to this Act.

4.—In any such constituency any contested election of the full number of members shall be according to the principle of proportional representation, each elector having one transferable vote as defined by the Act.

5.—His Majesty may, by Order-in-Council, make any adaptation of the provisions of this Act as to the machinery of registration or election which may appear to him to be necessary in consequence of the adoption of the scheme.

Lord Courtney of Penwith, chairman of the executive committee of the British Proportional Representation Society in his address in the Lords just prior to the vote being taken evidently had clearly in mind impending political and economic changes in Great Britain. After putting forward the favorable features of proportional representation he said (House of Lords Debates, Tuesday, January 22, 1918, vol. 27; No. 114):—"I will not go on to say anything—I am sorry to be so long—as to the character of the Government or of the Parliament which would result from the reform I am advocating. I will only say this, that so far from thinking that there would be any danger of a weak Executive and a divided Parliament, I am satisfied you would give Parliament new life, and the House of Commons would be strengthened to keep the Executive in order, while the Executive would have the adherence of men thinking for themselves and be strong enough to carry out their policy as they conceived it. We should get no landslide, no swing of the pendulum to change the whole aspect of political life. We should get no great overturnings. I, for my part, do not like them. I said long ago, and I repeat, that they are things which do not give us a healthy, continuous, and stable political condition. We should get a coherence of method, a steady development of education, and a movement which could be relied upon as slow perhaps, but, as sure, from one position to another of political advancement. If at any other time I advocated this with energy I would do so more powerfully than ever now, because, though not afraid, not quailing before possible political changes, I cannot look forward without some grave anxiety as to what may be in store in the immediate future of this country. It is not only that we have to get out of the desolation which war has brought upon all the nations of Europe—we yet want a man of light and leading who shall lead us from that horrible situation—but we have to look forward to a period of reconstruction when the wildest theories and the most extravagant action will be impressed upon the electors and the people of this country. It is not only capital and labor. You can see what that may lead you to, elsewhere. But the principles of taxation, the principles of contract, the principles of citizenship which now mind us one towards another, are all to be brought into discussion, and it is well to have men whose voices may be heard to guide you in this dark future which now lies before us."

The Earl of Selborne, in closing the debate, said:

"It has been a remarkable feature of this debate that practically there has been no answer to the case on which I based my Amendment. There has been criticism of the technical and practical difficulties of proportional representation. No answer, however, has been attempted to what I said, that the dangers in front of this land and of all democracies at the present moment are the elimination of important minorities and the swing of the pendulum.

Then, my Lords, I want to remind you of the fact that all the statistics you have heard about the voting in the House of Commons are worth nothing, because since those votes were given agriculture has made its voice heard, and the effect of the opinion of agriculture on the Members of the House of Commons has yet to be seen. Next, I sweep away altogether the objections of delay which my noble friend Viscount Peel put before this House. Is there one single member of your Lordships' House or any member of the other House who does not know that if the two Houses agree to introduce proportional representation in any form a way will be found out of all these difficulties?"

The vote was then taken, 131 favoring the proportional representation amendment, 42 voting against it.

Electric Heating in the Home

F. F. ESPENSCHIED (Hydro-Electric Power Commission of Ontario).

The question of electrically heating the home is one which is apparently being considered by many people in this Province, judging by the frequent questions asked the Hydro-engineer in the field. The usual layman, after asking when it will be feasible to heat the home electrically, continues by saying that he assumes that pretty soon power will be cheap enough to be used generally for house heating, dispensing with the use of coal altogether. He also assumes that new inventions and higher efficiency methods of using electric power will soon bring the cost within his reach.

It is for the purpose of explaining this matter in such a way that the layman can readily understand the situation and presenting some figures obtained from tests, that this article is prepared.

In considering the broad subject of electric heating basic facts must be considered and certain assumptions made. The fundamental fact is the relation of the kilowatt hour, or electric power unit, to the heat unit, or what is called the British Thermal Unit. (B. T. U.).

The primary power units used in the scientific and engineering world are the units of length, mass and time, or in English units—the foot, the pound, and the second. From these units by extensive and repeated experiment and analysis all other power units have been derived and the ratios between them are defined accurately. From fundamental units the kilowatt hour is equivalent to approximately 3,412 heat units. That is to say, if one kilowatt hour of electrical energy is all converted into heat, 3,412 heat units will result.

It should also be remembered that all forms of energy can be and are eventually dissipated in the form of heat, and it is possible even with the crudest electric heating elements to convert electrical energy into heat energy at practically 100 per cent efficiency.

This does not mean that all the heat from a kilowatt hour can be usefully employed for all purposes. Heat may be likened to a supply of water in that it will flow from a higher to a lower level only, without the application of external force.

"Heat Units" refers in no way to temperature. Temperature may be likened to head of water, or pressure.

The heat units available at a low temperature are for many purposes useless. A hot water radiator, no matter how much heat is circulated, will not give heat to the air in a room unless the temperature of the radiator is above that of the room. The same applies to any other form of heating apparatus owing to the fact that heat will not pass from a body of low temperature to one of higher temperature, the reverse operation only being feasible.

By careful analysis and experiment the number of heat units that can be obtained by burning various substances has been determined. Various grades of coal contain a certain number of heat units, depending upon the chemical composition of the coal. For the purposes of this article we will assume that first class high-grade anthracite coal will contain 14,500 heat units per lb. This means that if one lb. of coal is burned under ideal conditions in laboratory apparatus, a total of 14,500 heat units will be given off.

In actual practice coal is not burned under ideal conditions, and it is found that even in high grade steam boiler practice under test conditions only approximately 80 per cent of the available heat in the coal appears in the steam, the remaining 20 per cent being lost up the flue, through radiation and through incomplete combustion.

The ordinary hot water furnace, as used in the home, is far less efficient than the high grade steam boiler operated under ideal conditions, with skilled attendance, and it seems that if 45 per cent of the heat available in the coal is transmitted to the water and useful for house heating, it is about as good as can be expected. Many furnaces operate at even lower efficiency and probably few, if any, at a higher figure.

On mild days checks are opened and dampers closed, with a resultant lowering of furnace efficiency, due principally to incomplete combustion of the gases given off from the coal. We therefore believe that we are safe in assuming that not over 4 per cent of heat contents of the coal is useful for heating the house.

45 per cent of 14,500 heat units is 6,525 useful heat units obtained from a pound of coal. This compared with 3,412

heat units from one kilowatt hour used in an electric heater indicates that for house heating purposes one lb. of coal burned per hour is equivalent to 1.91 kilowatt hours, or one ton of coal burned in the house furnace equals 3,820 kilowatt hours.

That this ratio is not far from the actual figure obtained by tests will be shown by the example following.

Assuming this ratio to be correct within ordinary limits, it will be noticed that with current at one cent per kilowatt hour the heat equivalent of one ton of coal obtained from electric heaters would cost \$38.20, and with current costing $\frac{1}{4}$ c per kilowatt hour the heat equivalent of one ton of coal burned would cost \$9.55, which would seem to indicate that for electric power to compete with coal at \$8.00 electric energy would have to be procurable at less than $\frac{1}{4}$ c per kilowatt hour.

It is undoubtedly true that houses built especially for electric heating can be so insulated as to reduce the heat loss through the walls and windows, with a corresponding decrease in the number of kilowatt hours necessary for heating. Anything of this kind done to reduce the heat losses from the house would also lessen the cost of heating by coal or any other method.

Kinds of Electric Heaters.

Electric heating at present is confined largely to auxiliary service in homes, offices, etc., that is to take the chill off during cool mornings and evenings, or to supplement the regular heating system during extremely severe weather.

The usual heaters for this purpose consist of resistance wire wound on suitable supports, either with or without reflection surfaces. These, being light, are portable and comparatively cheap. They are also practically 100 per cent efficient as far as converting electrical energy into heat is concerned. They may be operated at high temperature or at a glowing heat or at a low temperature, dependent upon design and the wishes of the builder. Such heaters require the use of power during the entire time that heat is desired.

For large installations, and where it is necessary to turn off the electric power during part of the time and yet keep a fairly uniform temperature in the room, some form of heat storage is necessary. Experience seems to indicate that for this purpose the best arrangement consists of the ordinary hot water house heating system with the furnace replaced by a carefully insulated or lagged water tank, provided with one or more heating units of the bayonet type. In many cases a small motor is used to rapidly circulate the hot water in the system.

With such an installation it is customary to automatically cut off the electric power during the lighting peak, and to at least reduce it during the period of heavy station load. This can be accomplished by suitable time clocks.

The amount of energy fed into the heating system is also automatically regulated by means of thermostats, which vary the number of heating units in service, according to the temperature to be maintained in the building. This system, while fairly high in first cost, is flexible, self-contained, automatic, practically free from fire risk and free from dust and odors. It may be considered practically ideal. Another system which has been tried, and which seems to have a promising future for some cases, consists of a cast iron or pressed steel radiator filled with water or oil, for heat storage purposes, and individual bayonet type heaters, either hand or automatically regulated. These radiators may be either stationary or portable, and the scheme does away with expensive water piping throughout the house. It has the disadvantage of not having as large a heat storage capacity as the system above mentioned, and therefore is not as well adapted to keeping uniform temperature during off peak load periods. The first-named system may be used to store heat during the entire night and give it out during the entire day without supplying any electric power to the system during the day time.

Another system adapted for auxiliary heating, that is, to supplement an ordinary furnace during severe weather, consists of electric heating elements attached to the water piping system near the individual radiators for boosting the temperature when required.

IN TIME OF WAR PREPARE FOR PEACE.

At the conference on community development for the war, held in Philadelphia, February 26, by the American City Planning Institute, special emphasis was given to the importance of planning now for the reconstruction period after the war. The subject was introduced by Andrew Wright Crawford, Secretary of the Art Jury and of the City Parks Association of Philadelphia, who pointed out the fact that to make proper provision for the slack that will come immediately after the war ceases it is essential that plans for improvements and the acquisition of lands necessary for public work be begun in advance. Such processes often require more than a year, and, as Mr. Crawford showed, the preparation, approval and adoption of plans involve practically no workmen—they take no men from war industries; neither does the acquisition of land by legal procedure.

The importance of federal and local action in this matter was further emphasized by Thomas Adams, Town Planning Adviser of the Canadian Commission of Conservation, and the following resolution, introduced by Harold S. Buttenheim, Editor of "The American City," was unanimously adopted:

"Whereas, The signing of a treaty of peace will inevitably be followed by a dislocation of industry because of the discharge of millions of workers in war trades and the demobilization of soldiers; and

"Whereas, It is in the power of the national and local governments to minimize the resulting unemployment and to promote the public welfare by starting the execution of new public works immediately after the war; be it

"Resolved, That this conference recommends to the Board of Governors of the American City Planning Institute that the Institute advocate through the proper channels in Washington the immediate establishment of a Federal Commission of Reconstruction to make plans for meeting these post-war problems, and also request the President of the United States to urge the various state, county and municipal authorities to begin forthwith the preparation of well-considered plans for local public works, so that they may be undertaken promptly and without waste, or extravagance, in so far as they may be needed to provide productive temporary employment for labor after the war."

It is suggested that among the public works for which such plans might be made are the building and repairing of streets and roads, the erection of schools, county institutions and other public buildings, the reclamation and afforestation of land, the reconstruction of slum areas, the development of parks and playgrounds, the provision of more adequate water supply, sewage disposal, fire protection, street lighting and other improvements which will provide employment for labor and promote the public welfare.

WHAT RATIONING MEANS.

"The people face big things, but get worried over small ones. There has been only one successful food controller in the history of the world—the One who made five loaves and two small fishes feed a multitude. I tell you what rationing means. It means that a nation in the furnace of war is becoming more of a brotherhood." — LLOYD GEORGE.

ELECTRIC HEATING—(Continued.)

Each of these several schemes of converting electrical energy into heat and distributing it has advantages under different conditions.

It should be emphasized, however, that the conversion of electrical energy into heat energy is accomplished at 100 per cent efficiency by any of the methods outlined above when we consider the actual heat liberated. The effectiveness in heating room, however, depends, among other things, on the temperature of the heating medium and whether all the heat generated is used usefully in the rooms to be heated.

Any heating scheme or device which it is claimed converts electrical energy into heat at higher efficiency than any other method should be very carefully examined and investigated. Ridiculous claims are sometimes made for heating appliances which as explained above, cannot be more than 100 per cent efficient.

UTILIZING THE BOYS IN NATIONAL WORK.

A movement which has in it the promise of much influence on our national life, is that promoted by the Canadian National Advisory Committee for co-operation in Boys' Work. This Committee is composed of representatives of the Anglican, Baptist, Congregational, Methodist and Presbyterian Churches, together with representatives of the National Y.M.C.A. and the Inter-provincial Sunday School Association.

The work is carried on through existing organizations such as Sunday Schools, Boys' Organizations, local Y. M. C. A.'s, and the High Schools.

It is intended to reach all boys of the 'teen age, and particularly the older boys of 15 to 20.

An outline programme of study and activities for the fourfold development of Canadian Boys has been prepared, which is known as the "Canadian Standard Efficiency Test" programme. This programme was first published October, 1912, for the use of boys of the Y.M.C.A., but recognizing to some extent the possibilities of enlarging the scope of the tests, a committee of business men in Toronto under the chairmanship of Mr. H. H. Love, carried on experiments, and gathered a considerable volume of information bearing upon the standard to which boys of various ages might be expected to attain in physical work such as swimming, running, jumping, etc., in intellectual work as evidenced by their school records, or evening studies in the case of working boys; in religious work, and in social service, which includes the study and practice of all that goes to make up good citizenship.

Mr. Taylor Statten of Toronto, has probably done more than any man to build up the C.S.E.T. idea. Mr. Statten's value to the community has been quite recently recognized by the Dominion Government, who have appointed him superintendent of the "Soldiers of the Soil" movement, which is an outgrowth of this Boys' Work, and which now has official recognition as a very important part of Government work.

During the last year upwards of 8,000 boys in Ontario alone enlisted from village, town and city for farm service, and during this year, with the much better organization, a still larger number of "Soldiers of the Soil" are expected to help in the production of food stuffs.

The Canadian C.S.E.T. programme attracted the attention of workers among boys in the United States. Mr. Taylor Statten was invited to present the Canadian plan at a meeting of the Executive of the Association of Boys' Work Secretaries, at Detroit, and later at meetings in Cleveland in 1914, with the result that standard efficiency tests after the Canadian model are now used in the United States.

The localised work in Canada is in the hands of Provincial Advisory Committees constituted as the National Committee is, of authorised representatives of the seven co-operating units. Conferences for older boys and summer training camps have been held from coast to coast. During 1917, 55 such conferences and 8 summer training camps were held, with a total attendance of nearly 10,000 boys.

BAD YEAR AHEAD IN FOREST FIRES.

Rangers ask Public to Help Them Keep Fire Out of the Woods.

The danger season for forest fires is near at hand. Rapidly drying soil has left the old grass, brush, leaves, etc. in most perilous condition for starting fires.

An effort is being made by the fire rangers in Ontario to keep down the forest losses this year to a minimum. They will succeed only if every camper carefully extinguishes his camp-fire before leaving it, if every smoker refrains from tossing away burnt matches or tobacco in or near a wood, and if settlers in the newly-opened districts guard their land-clearing fires with the utmost care. Settlers' fires continue to be the very worst source of forest conflagration, although campers and careless smokers are close competitors.

"The fire rangers," says the Canadian Forestry Association, "want every good citizen to regard himself as a deputy ranger from now until November first."

"A Canadian forest was never worth so much as to-day, never gave so many jobs as to-day, never put money into circulation as it does this year."

Affairs in Manitoba

H. E. MORTON.

Numerous matters of import are occupying the attention of the Winnipeg City Council just now. One of the largest and most important is the jitney question; then there is the revised city charter, matters connected with the big \$13,000,000 project of the Greater Winnipeg Water district, to which Winnipeg and the surrounding municipalities are contributors; a proposal to municipalize all the city hospitals, the new city charter passed by the Manitoba legislature, the civic pensions scheme framed by Professor Mackenzie, of Toronto University, a proposal for a municipal income tax, and last, but not least, a renewed request by the 1,500 civic employees for a new wage schedule, will, if granted, add approximately ten per cent to the civic salaries list.

Dealing with the first-named, the jitney question—the City Council have been granted full powers by the legislature and is now in a position to abolish the jitney service should it see its way to do so. Their fate is, so to speak, in the balance. The Council at its last meeting accepted a report made by the transportation committee which had been dealing with the subject for some time previous. The aldermen, however, considered they should be given some time to study the report which was very voluminous and it was decided that the matter should stand in abeyance until special meeting was called by the mayor.

From the figures given out by the street railway company following its meeting of March 20, it was shown that a comparative small amount, or to be exact, \$92,579.65 remained as net profits for the year 1917, which would be about sufficient to pay one per cent dividend on the capital invested. From the figures also it was learned that the gross earnings of the company for 1917 were higher than in 1916, but that the operating costs were very much higher. In the operating costs as set forth, there was included for the year 1917 the sum of \$201,050 for depreciation. It was shown that if the process which has been going on for the past five years in depreciation, operating cost, increase in wages and jitney competition, is continued for one year more, there would not be near enough money to pay the fixed charges, and that the apparent result would be that the concern would be obliged to go into liquidation. No dividend has been paid since 1915 and, of course, there is no prospect of any dividend in the future unless some changes are made. Directors of the company state that an increase in the fares is inevitable if present conditions with reference to costs of material, etc., continues, and quite apart from the jitney question. It seems therefore, that, in the interests of the city, the Council will even stretch a point, and issue the ultimatum that jitneys must go.

Aqueduct May Cost \$16,000,000.

As the big aqueduct from the Lake of the Woods to Winnipeg nears completion, property owners are commencing to ask themselves whether, after all, the big project was a wise one. The surrounding municipalities are the most involved. Several of these are sparsely populated, and the cost of the undertaking based as it will be on the value of the land, will, it is feared, prove a burden too heavy to bear. Assiniboine, one of the largest of these, threatens to assert itself within a short while either by applying to the legislature for permission to pull out, or by asking for a radical change in its assessment. To this one municipality the cost of tapping the main supply will cost approximately \$240,000. Only those citizens living close to the centre of the municipality, or in other words, the more thickly populated portion, and that part nearer Winnipeg will benefit, for farmers living in the farther out portions will have to pay the piper as well as the urbanites. It will be interesting to watch developments on the part of these municipalities towards this big undertaking, which so far as can be estimated at present, will cost in the neighbourhood of \$16,000,000.

Municipal Income Tax Favored.

The application of an income tax, preferably of a provincial nature and extent to supply the necessary revenue for the administration of the affairs of the city of Winnipeg is favored by the majority of citizens. The main object of the proposed change is to be able to raise more

revenue and at the same time to more evenly distribute the burden of taxation. The changing of assessment values would obviously not accomplish this object, as the tax would correspondingly be raised or lowered to meet any alteration in the assessment. The only remedy seems therefore to open up some new source of revenue, and the question now is, would not profits on business, personal income tax, and tax on profits derived from mortgages produce the desired results? The adoption of these would, it would seem, give the city a system of taxation on land and buildings, business tax on net profits, personal income tax, licenses and profits from mortgage. "Are we all paying our proportionate share of taxes?" This is the question being asked and this is the question which should be asked by all right-minded and fair citizens, be they of whatever city they may.

Taxes by Instalments.

Under an amendment to the city charter, Winnipeg citizens are to be given the right to pay their arrears of taxes in instalments, instead of as hitherto in a lump sum. As the city charter stands at present, no ratepayer can make any payment on account of his arrears of taxes; he must either pay the entire amount or nothing. The proposed amendment will enable any person in arrears to the extent of one year's taxes, to pay up by five instalments; if the taxes are three years in arrears, they may be paid in fifteen instalments.

No Hospital Municipalization.

Winnipeg is proud of its municipal hospitals, possessing as it does two of the finest and best managed institutions in the Dominion. It is, however, opposed to further municipalization, and the City Council at a recent meeting turned down what amounted to such a proposal made by Controller Puttee. The Winnipeg General Hospital, at present supported by provincial and municipal grants and private contributions, was the institution around which interest centred, the board of this hospital having recently petitioned for a special grant of \$60,000 to meet increased expenditure to the end of the present fiscal year. The Council authorized the grant almost without discussion, following elaborate arguments on the advantages and disadvantages of municipalizing hospitals in Scotland, England, France, Canada, and the United States, advanced by both men and women speakers. The decision of the Council not to further tax ratepayers by imposing upon them a cost to a great extent at present carried by public and private subscriptions, was generally commended.

KEEP A PIG.

It Will Help Keep You, or Pay For a Victory Bond.

During the summer of 1917, a number of conferences were held at various points in Canada for the purpose of discussing increased bacon production. Farmers and breeders were everywhere urged to keep and breed extra sows. As a result, the Live Stock Commissioner reports that we may confidently expect the number of hogs to be increased by 25 to 30 per cent during 1918. The first step towards an increase in our bacon supply has thus already been taken.

The next step is to see that these extra pigs are fed and fattened. The fed situation is acute. Many farmers who have been able to breed and winter an extra sow or two will not be in a position to feed to a proper finish all of the extra pigs. There are numerous householders in Canada who could help relieve this situation by keeping on one or two pigs, which could be bought at weaning time, fed during the summer largely upon the garden and kitchen refuse, and finished off in the fall upon an increased meal ration.

There are thousands of people around towns and villages and in small settlements who could, and should, help in this way. It is past the time for "doing your bit"; it is now time to "do your utmost." Do not allow kitchen refuse, or garden weeds and waste to go unused. Feed them to a pig. A properly-cared-for pig is not a menace to public health. What you do in this matter may mean life or death to somebody "over there." Decide now and begin to get a place ready to KEEP A PIG.

SOME SPECIAL ARTICLES THAT WILL APPEAR IN MUNICIPAL MOBILIZATION AND RECONSTRUCTION.

The Civic Education of the Future
 Ships, Ships and More Ships
 Industry and the City
 The Ethics of Civic Government
 The Rural Community—Its Opportunity
 Civic Live Stock Markets.
 A Boon to the Cattle Industry and Solvent of High Prices
 Local Bureaus of Industrial Information.
 Good Roads a Commercial Asset
 Civic Mobilization and Reconstruction
 The Employment of Returned Soldiers
 A Municipal Factory
 The Chemist and his Part in Canada's Industry
 Development of Local Industries.
 The Municipality and its Dependence on Industry.
 The Citizen and Reconstruction—His Opportunity.
 Electrical Energy and its Influence on Industry.
 Electrical Energy and its Influence on Industry
 The Gas Industry and its Future
 Organized Effort to Secure Industries.
 Mental Defectives—Their Control.
 A Self-Supporting Canada.
 The Proper Distribution of Immigration
 The Immigrant—His Assimilation.
 The Necessity of Technical Education in Canada.
 Permanent Civic Exhibitions.
 Municipal and Federal Bureaus.
 The Forests of Canada, Their Economic Utilization
 Civic Responsibility and Civic Opportunity
 Rural Credit Societies.
 Canada's Economic Independence.
 New Canadian Industries.
 Co-operative Societies and the Municipality.
 A Great National Highway.
 Mobilize Canada's Municipal Machinery to win the War.
 Canada's Trade—The Part of the Municipality.
 The Future of Social Welfare.
 The Child and the Nation.
 The Telephone as a Factor in the Mobilization of Labor for Reconstruction Purposes.
 The Taxpayer and Reconstruction

SUN LIFE ASSURANCE COMPANY OF CANADA HAD RECORD YEAR.

A year of remarkable progress has been achieved by the Sun Life of Canada during 1917, as is shown by the published statement which appears elsewhere in this issue.

The big Montreal company again maintained its position as the largest of all Canadian life companies. Its assurances in force now total \$311,800,000, policies issued and paid for during the year amounting to over \$47,800,000, the largest amount ever issued by a Canadian company.

Assets increased by over \$7,000,000, during the year to \$90,160,174, the largest resources held by any Canadian assurance organization. Net surplus over all liabilities and capital now exceeds the handsome sum of \$8,550,000. Sun Life of Canada policyholders received last year total payments of \$8,840,245 bringing the total sum paid policyholders since the organization of the company to over \$69,000,000. Cash income for the year reached the fine total of \$19,288,997.

The showing of Canada's largest assurance company during the year just past affords grounds for just pride on the part of the Canadian people and for gratification to Sun Life of Canada policyholders.

It is interesting to record that the company has now occupied its fine new Head Office building on Dominion Square, Montreal, where adequate room will be afforded for the continual efficient administration of its rapidly expanding business.

THE CRITICS OF MUNICIPAL ADMINISTRATION.

We are pleased to note that City Treasurer Sykes of Brandon (Man.) has taken up the cudgels so aggressively on behalf of his city against the false rumors that Brandon is facing a financial crisis. It seems to be quite the fashion for the press, particularly the financial papers, to rap at local administration. Taking into consideration the solid fact that the war coming at a time when the cities of Canada, especially those in the west, were already feeling the effect of the bursting of the land boom, which would have made many of them defaulters had they been less virile, and had the councils less confidence in their communities, much credit is due to our local authorities for their achievements in getting over almost unsurmountable financial obstacles. But they have, for practically all our western municipalities are to-day in good financial order, in spite of the note of pessimism of those who would only see blue ruin ahead. Perhaps the wish was father to the thought. What we can never understand is, why the press is under the impression that municipal executives and officials in Canada are not capable of administering local finances. Our experience, which is large, tells us very distinctly that in conducting the administration of a community, the average municipal corporation in Canada, is equal in administrative ability to the executives of the private corporation, however large it may be, and this in face of the rigidity and limitation of the laws governing the municipal executive as against the elasticity of the laws governing the executive of the private corporation. And yet we hear time and time again the canting phrase—one would call it a copy-book heading: "Oh, if they would only run municipal affairs along business lines, we would get very different results." No doubt very different results would accrue—results that would probably land the officials in the penitentiary if they applied some of the methods to public administration that have been and are applied to private administration. There is a difference—a vast difference—between the two, and the sooner it is recognized the better. Mr. H. H. Bell, K.C., the City Solicitor of Halifax, in his article on "Differences between Municipal and other Corporations," that appeared in last month's issue of this Journal, got down to fundamentals when he stated that "the trading company is to make money for its shareholders. So long as it does that with reasonable success they have nothing to say and no wish to say anything. The object of the city, on the contrary is not to make money, but to spend it in performing various services for its members." In other words, the municipal corporation is a trust commission to administer the public funds of the community in such a way as to give the greatest benefit to the people who contribute the said funds. Surely the qualifications for such an administration must be something bigger and broader and more humanitarian than the qualifications necessary to run a business whose object is money making only. We know of many successful business men in the old country, and in Canada too, who have become members of the local council only to find a very different atmosphere between private and public business. And until that difference is felt and appreciated by the would-be critics of municipal administration in Canada, they should not be so eager to condemn.

THE INCIDENCE OF MUNICIPAL TAXATION.

Mr. E. T. Sampson, city treasurer of Outremont, in an article on "The Incidence and Principles of Municipal Taxation," in the March number of the Municipal Journal, makes an able plea for the readjustment of municipal taxation than ownership, associated with an increment tax to prevent undue profiting from the continued holding of land from occupation. He points out that taxation of the owner irrespective of whether the property is revenue-producing or not leads to "capitalization of carrying charges (taxes and interest) on unremunerative vacant land," tending to cause values to rise above a reasonably estimated earning power, promotes congestion of population, and unduly relieves the tenant of his feeling of responsibility for municipal conditions. The evils of the existing system are apparent enough, and have unfortunately led to many wild proposals for amelioration. It is important that serious and well-considered suggestions such as those of Mr. Sampson should receive attention.—Financial Times.

Future of Electric Power and Electric Heating of Houses

In a very instructive address recently given before the Electrical Association of Montreal, Mr. H. E. Randall, the sales manager of the Shawinigan Power Co., introduced a new phase relating to the future of electrical energy, which reads as follows:—

"At this time when we hear so much about hydro-electric power and the utilization of our water powers, the transmission of power become most important. We electricians think only of electricity as a means of transmitting power, but what is a train of coal but a means of transmitting power—latent power, it is true—but it is transmission nevertheless. What is the conduction of oil through pipe-lines but the transmission of power? And it is interesting to note that these two methods of transmission far outstrip the transmission of power by electricity in distance, there being pipe lines in the United States nearly 3,000 miles long. So then, since there are several kinds of transmitted power, the electrically transmitted water power has to compete at the receiving and with the power transmitted by the railway line or otherwise, and in this country where heating is used for such a large portion of the year, a still further advantage exists for other kinds of power, but nevertheless with cheap power at the source and careful transmission, with low loss which in good lines should not exceed 5 to 10 per cent, it is possible to economically compete with other transmitted power, and as a result these transmission lines which you see have grown up."

"However, going back to basic principles, it is open to serious doubt whether the future commercial loads, as we know them, will be handled by Hydro-Electric plants and transmission system or by steam plants. The present efficiency of conversion from power in water to electricity is well up to 90 per cent; the present efficiency of conversion from heat in coal to electric power is around 20 per cent. In the one case you have practically no possibilities of betterment; in the other case you have tremendous possibilities of betterment."

"At the present time, for ordinary commercial city loads a well designed steam plant, with large units, properly located with respect to water, etc., can supply in most parts of North America now settled electric power for distribution in city streets at a price which favorably compares with hydraulic power electrically transmitted. This is shown by the remarkable success of the 100,000 H.P. steam plant now located at Buffalo, twenty miles from Niagara Falls."

"What then would result if somebody should produce—as no doubt will be produced—metals capable of withstanding temperatures of a red heat at high pressure? Why, immediately the efficiency of conversion from heat to electricity would jump, and all our elaborate transmission systems would be open to obsolescence, due to changing methods, because they can be materially improved."

"Transmission, however, has another aspect, and that is an aspect which will no doubt in the future become a most important aspect, that is, transmission lines will not be used so much for transmission of hydraulic power to its centres of use, but rather for the tying together of all sources of power, so that the use of electricity, or of the powers of the country transmitted to your door by means of electricity, may be well nigh universal. Transmission lines of Canada and the United States, have been built up almost exclusively around water powers, there being a few through Ohio, Pennsylvania and Illinois which are steam transmission systems—these three States show the new aspect, the linking together of large stations, feeding a vast net-work, which brings about a uniformity and continuity of supply at low prices, so that the Public Utility is able to supply the public with that which it desires at the lowest possible cost, and is, therefore, successful."

"I dare to predict that these transmission lines will in the next ten or twenty years become pretty well inter-connected so that we will have not a large number of large or small separate systems, but a large inter-connected system, presumably made up of a few large organizations interchanging their energy on some equitable basis."

"What I mean by all this is that we must not let our enthusiasm run away with our better judgment when it comes to hydro-electric power. To-day it is a fetish in some parts of Canada, but it is subject to many pitfalls; the most important one of which is other kinds of transmitted power. It has nevertheless a big future, especially

for those kinds of loads which we call high load factor loads, that is those loads which will use the tremendously heavy investment in Hydro-electric generating stations and transmission lines the greatest number of hours in a year. For other loads, that is, low load factor loads, other means of producing power will probably show up more advantageously than the present harnessing of hydraulic power."

MR. RANDALL ALSO TOOK UP THE SUBJECT OF ELECTRIC HEATING ALONG THE FOLLOWING LINES:

"We are hearing to-day a great deal about electric heating. The Shawinigan Company has for several years carried out experiments in electric heating of houses, and while this data has been crudely gathered, nevertheless there is available a pretty good indication of the facts. The basic principle of electric heating is that electricity can be turned into heat and distributed through the room at 100 per cent efficiency, whereas coal or other sources of heat can only be turned into usable heat and distributed at some fractional—say, probably 50 per cent—efficiency. We must never forget, however, that 1 k.w.h. fundamentally and absolutely has only the intrinsic heat value of one-quarter of a lb., of good coal, and that it only has the equivalent heat value of about one-third or one-half of a lb. of coal burned in the ordinary manner. So we cannot hope, therefore, in the future for more efficient use of electricity for heating except in the distribution of the heat, that is, no electric heater will give or put into the room more heat than there is in the electricity, and almost any kind of electric heater from the standpoint of heat alone; not long life or ease of operation, is the equivalent of any other."

"Most of us have been working on electric heating as an off-peak proposition, realizing that it must be done with cheap electricity. Now, an off-peak proposition can only be worked when the ruling load is bigger than the off-peak load. Data from electrical distributing companies shows that the average city house takes a maximum demand of about 400 watts on the average—say, one-half a kilowatt. Our experiments on electric heating of houses show that the average house requires about 20 k.w. of maximum demand, or with properly designed heaters. You can see, therefore, that electrical heating can never be an off-peak load unless some other load can be developed which would be off-peak to it, and sold at a fairly high price."

"We also find that it requires some 1300 to 300 k.w.h. per year for each k.w. of demand for each house, so that the average house would consume some 30,000 to 40,000 k.w.h. a year for heating, and this in the winter time when our hydraulic electric powers are at their lowest. Let us see what this means in horse power. To be ultra-conservative, let us say that instead of 30 k.w. the average house would only take 20 h.p. Now, the city of Montreal has roughly 125,000 houses—say 100,000. Now, 100,000 houses at 20 h.p. per house is only 2,000,000 h.p., a figure which is greater than the entire hydro-electric system of Canada to-day; and in fact, there is not enough hydro-electric power developed in the entire continent of North America to-day to heat the little Province of Quebec."

"Considering the kilowatt hour side of it, reliable statistics for United States and Canada show that the use of electricity in 1917 amounted to about 250 k.w.h. per capita per year for all purposes, lighting, power, electric furnaces, heating and everything."

"If we assume five people in each of the above houses, this means between 6,000 and 8,000 k.w.h. per year per capita for heating, that is, twenty-five to thirty times as much electricity as is now used on the average per capita throughout this entire country—so it would, therefore, seem that tremendous additions to our present development would have to be made to even heat one-tenth of our homes."

"But now let us examine what would be the cost. With some knowledge I could say that on this tremendous scale electricity could not be delivered to your door for less than \$20.00 per h.p. for the season's service, that is, the average householder would have to pay \$400.00 a year, or the city of Montreal householders would have to pay \$40,000,000 a year for heating their houses, whereas actually they pay, at \$10.00 a ton for coal, not over \$7,000,000; that is, there is quite a margin between electrical heating of the houses of Montreal and heating them with coal; but you say: "What would we do if we had no coal?" The answer is, there is always commerce, and while there is commerce there will

LAWSON PURDY.



In Mr. Lawson Purdy's appointment to the new office of General Director of the New York Charity Organization Society, the administration of New York lost one of its ablest servants, he having been for eleven years President of the Tax Board, but the larger public will gain a valuable asset. For many years Mr. Purdy has taken a keen interest in civic matters and his services as a speaker has been in great demand at many municipal conventions. As President he presided at the Detroit meeting of the National Municipal League, when quite a number of Canadian delegates had an opportunity of meeting him.

The New York Globe, in referring to Mr. Purdy's retirement from the office of President of the Tax Board, says: "The announcement that Lawson Purdy, until Jan. 1 president of the Tax Board, has been elected director of the Charity Organization Society furnishes basis for two reflections—one disheartening and the other heartening.

The mere fact that Mr. Purdy, admitted to be, in regard to tax and assessment problems, the most competent man the city contains, is in new employment brings sadly to mind the fact that the public still suffers under the insensate policy which denies to demonstrated merit continuity of tenure. How can we expect to have the public business well done?

The other and heartening thing is that Mr. Purdy, although his expertness in tax matters made it easy for him to earn large fees as tax adviser to large taxpayers, preferred a position of small compensation, but of large opportunity for service. It is good to think New York contains such citizens, and it is not necessary to wait until obituary notes are penned before mentioning them by name."

FUTURE OF ELECTRIC POWER AND ELECTRIC HEATING OF HOUSES.

be coal—at least in our day and generation—and if instead of using this tremendous amount of power for heating purposes, which we electricians call low grade purposes, let us use it for high grade mechanical, electro-chemical and electric furnace processes, which would make this country the most important country in the world in this regard and would tend to make us the richest."

"The City of Shawinigan Falls to-day uses some 100,000 h.p. and each year exports from Canada products amounting to \$30,000,000; that is, holding the same proportion, the 2,000,000 h.p. which would be required to heat the city of Montreal would bring to this country as a favorable trade balance twenty times \$20,000,000, or \$400,000,000 per year, whereas it was shown that \$7,000,000 would have purchased the coal which this tremendous amount of power would have made unnecessary."

Is there any argument then in favor of electric heating when it means the sacrifice of valuable electricity, valuable in producing new chemicals, new products, in increasing the wealth of this Province seventy times the value of the electricity used as heat?"

"After the war we are going to face debt—the interest on debt—and it is only by favorable trade balance that this can be remedied."

"Let us, therefore, get together and boost for the big thing, not the selfish heating of our houses, but for the development of these water powers and the use of this power for industrial purposes to increase the wealth of this country of ours."

ADVERTISING A TOWN.

A good many Chambers of Commerce and civic organizations spend much money and effort in attracting population and capital.

BUT—

Some of them are like a business that neglects its old customers in order to get new ones.

They are, again, like the merchant who spends money on advertising and neglects his show-window which is the very best kind of advertising and which does not cost him a cent in outlay.

One opportunity that the civic organization neglects is the average traveling salesman that gets off and on every incoming and outgoing train, every day.

Every one of these men is a walking, outspoken, convincing advertisement for or against any town.

Any man, away from home, is always very grateful for any attention that will tend to make him feel at home.

He is equally strong in his resentment of any mistreatment while away from home.

A good and very inexpensive beginning for any civic organization in promoting the growth and prosperity of its town in seeing to it that every travelling man gets fair treatment, gets his money's worth in the common services of which they all partake and pay for while in town.

Every one of these traveling salesmen that comes into a town has money or influence, or both. Many of them are seeking business opportunities or know of those who are seeking them.

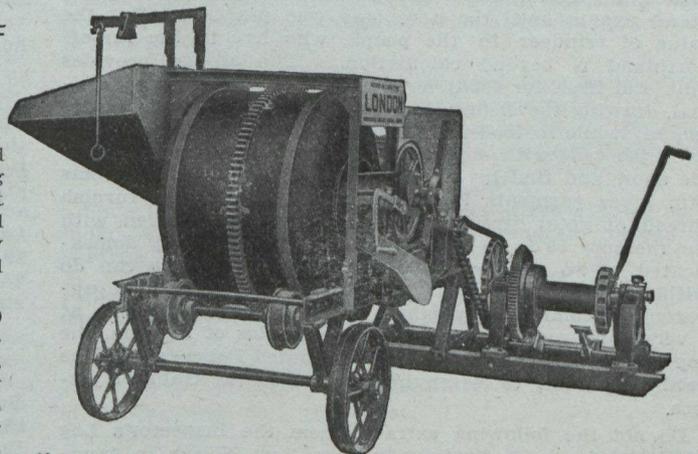
After all, our impressions of a town are from those intimate and personal services of which we partake—how we ride up from the station, what we eat and the kind of bed in which we sleep.

Listen to a group of traveling salesmen on a train, and the praise of one town or the condemnation of another is in the matter of how they are used or abused in some one, or all, of these items.

Every town, out of its swaddling clothes, should have a good hotel, just as every prosperous household should have its guest-room, and to see to this should be the first duty of a civic organization, and whether it pays directly or not should be of the smallest consideration.—The Type Metal Magazine.

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Reindeer--A Source of Food

HARRY BRAGG.

Lord Rhondda is recently reported to have said that while it is well to call attention to the pleasantly phrased "shortage of food," yet it is necessary to recognize that the world is face to face with what India has often experienced, that is, **A REAL FAMINE.**

In view of this serious statement from the foremost authority on the subject, the conservation of food, valuable as it is, is not sufficient. There is an absolute need of the increase of the supply of food for the future.

One very valuable but unused source of food for Canada was described in our pages several years ago, but it has been still neglected, although our neighbours have proved its success and great value. That is the introduction of reindeer into what are called the "barren lands" which extend all along the northern part of the Dominion.

In our issue of August, 1909, the Canadian Municipal Journal published an article on this subject written by Mr. F. S. Lawrence, F.R.G.S., whose long residence in the Peace River District gave him the experience which enabled him to speak as an authority. In this article, the possibilities of such a new industry for Canada were pointed out, and arguments advanced for the success of the enterprise based upon the experience of the United States in introducing reindeer into Alaska, which recent reports show to be a continued success. He drew attention to the various ways in which reindeer would be a valuable industry to Canada, and showed that the vast areas which are now useless would be a most suitable field for the reindeer. It was prophesied that reindeer meat would be brought into the markets in large quantities, while the natives would be made independent, instead of being on—or occasionally over—the verge of starvation; how the reindeer would make up for the gradual extinction of wild game; and allow of the exploration for minerals, and ultimately the utilization of the vast resources of that wide expanse in, or near the Arctic Circle.

When our Government tried a small experiment in 1911, the Canadian Municipal Journal again drew attention to the matter, and claimed that some of the R.N.W.M. Police, who had been starved to death on a trip, would have been saved if they had been provided with reindeer instead of dog teams. This editorial concluded:—"In a very few years, it will seem incredible that the introduction of reindeer has been so long delayed."

Reindeer are associated with childhood's earliest romance, for Santa Claus has always come behind a team, at all events until the aeroplane was practical. But the value of reindeer to the people who live in the far-off northland is beyond calculation. The animal provides milk and flesh for food; he is a most admirable draft animal, drawing the sledges at a good speed, and for long distances; while instead of having his food added to the load, as is the case with dog teams, he can always scrape away the snow and find his regular diet, the reindeer moss; his skin gives garments light and warm; his sinews furnish thread of great strength; he needs no shelter even with the mercury 50 to 60 below; he is docile and easily domesticated. Two very valuable qualities are that he can do without food, if necessary, for several days without apparent discomfort; and that the does begin to bear at a very early age. A perusal of those tales of heroism, the reports of the Royal North-West Mounted Police, shows the need of reindeer to lessen the dangers on the trails of justice.

Do not the following extracts from the Inspector's Log of Patrol from Chesterfield Inlet to Port Nelson in January, 1915, point towards the substitution of reindeer for dogs in the policing of the great northern regions?

"Left with dog train of 10 dogs, with 30 days' rations for our selves and 12 days' dog feed. . . Very cool, 48 below. Constable Pasley and natives in harness assisting dogs." He describes how the dogs were starved, turned sick and died, and says because so many dogs were sick, he left with only one dog team for a trip of 500 miles, and of these five died on the way. Compare this report with that of a missionary in Alaska:—"We were much pleased with our reindeer trip. My wife, for the greater part of the 175 mile trip, drove her own deer, handling them without difficulty." Mr. J. T. Lindseth, carrying mails for the U.S., made 260 miles in 8 days with heavy loads and passengers; dog teams would have required 15 to 20 days, and the passengers would have had to aid the dogs.

In a most interesting address before the Montreal Canadian Club, Mr. Lawrence alluded to the great good that would accrue to the whole of Northern Canada, and in the article already referred to, he quoted those who could speak from personal knowledge, advocating this plan. He summarised the experience of the Educational Department of the States, through whose good work the reindeer were introduced into Alaska, and gave the results up to that date. Mr. Summers, for 15 years a resident of Alaska, was quoted as saying:—"The reindeer are the salvation of that northern country," and "They are a God-send to that country." Mr. Gilder, writing in the Century Magazine said: "I much prefer reindeer (to horses), because they are much swifter and more docile." Mr. Lawrence concluded: "To reclaim and make valuable this vast area, to introduce a large and permanent industry where none previously existed, to take a barbarian people on the verge of starvation, and lift them up to a comfortable self-support and civilization, is certainly a great and important work. A wide and general distribution of the reindeer will develop these barren areas, lift the natives from the level of beggars and place them upon a plane of independence."

This has proved perfectly true in the case of Alaska, where the experiment has done far more than its most enthusiastic advocates dared to claim for it.

But at the present time, this question has a far more personal and important aspect. It is not merely enough to prove that the introduction of reindeer will make the natives of the far north more comfortable and prosperous. It is claimed that there would be a supply of splendid meat, which could be brought down into the markets of the less rigorous regions, and in this way help to alleviate the horror of famine, of which Lord Rhondda speaks. The whole question now becomes a much more selfish, and therefore more important one to the general public.

The recent development of the Canadian North-West has been marvellous, and wheat growing has gradually been pushed farther north, beyond the limits that were believed possible only a few years ago. Cattle ranching has grown immensely in the foothills. But the vast majority of people still believe that the fertile prairies and the luxuriant foothills are the limited area in which food can be produced. All the vast northland is considered a waste, so far as food production is concerned. And yet there are millions of acres that produce the favorite food of the reindeer, on which countless herds could be reared, with the minimum of cost and labor. The Dominion has a vast ranch for reindeer, sufficient to raise enough for her own use, with plenty for export.

Would such an experiment prove successful?

This can be answered by the results of similar trials in Alaska and Labrador. The former experiment was due to the foresight of Dr. Sheldon Jackson, of the U.S. Educational Department, who, when Congress at first refused to give any grant, secured private subscriptions, afterwards augmented by Congress, and brought some reindeer and Lapps to look after them, in 1893. From that date until 1916 the total Government appropriations had been only \$312,000. In his Report for 1917, the Governor of Alaska states as follows:—

Valuation of 56,045 reindeer owned by natives in 1916,	
at \$25.00	\$1,401,125
Total income of natives from 1893-1916	470,837
26,106 reindeer owned by missionaries, etc.	652,650
Income of Mission, etc.	146,926
Total valuation and income	\$2,671,538
Total Government Appropriations, 1893-1916	12,000
Gain (756.00 per cent.)	\$2,359,538

As will be seen, the total number of deer is 82,151, while the number brought in originally was 1,280.

The actual results in a general way are thus summed up by the Governor:—

"This industry was introduced into Alaska for the sole purpose of making the natives economically independent in such portions of Alaska to which the industry could be adapted. In this the industry has been eminently successful. The distribution of the deer has been now firmly established and the natives affected thereby are assured

of a livelihood that is usually limited only by the individual's energy. Even in such sections where conditions are not favorable to the opportunities to realize any financial returns from reindeer, his herd provides the native and his family with food, clothing and transportation, which are sufficient in themselves to prevent him becoming a charge to the Government."

The results of Dr. Grenfell's introduction of reindeer into Labrador are equally gratifying. In 1907, 300 reindeer were purchased in Norway, and brought into Labrador. In 1911 they had increased to 1,200 head, while a considerable quantity had been killed for food, and there "had been the usual unavoidable losses by death and accident." Dr. Grenfell's opinion was that "reindeer will in future be as valuable in Labrador as in Alaska, and will afford an export industry of meat." The heavy type is ours.

Such figures, and such statements do not allow any doubt as to the success of the introduction of reindeer into Alaska and Labrador. And there can be no valid reason advanced why similar results will not be obtained in Canada.

I have already referred to the small experiment—if it can be called an experiment—which was tried by the Canadian Government in 1911, and which was under the auspices of the Hon. Frank Oliver. Part of the story is contained in the Report of the Director of Forestry for 1912. After describing the admirable success of the introduction of reindeer into Labrador by Dr. Grenfell, the Report describes how Dr. Grenfell agreed to sell to the Government 50 reindeer, which were to be taken into the Canadian Northwest. It goes on at great length to describe how the deer were taken by boat, rail and scows, until they were established in a "permanent camp" some 12 miles from Fort Chippewyan, the number having been reduced by the unaccustomed and difficult journey to 32 animals. This place appears to have been entirely unsuitable, as it is a country fit for cattle raising, or even for farming, but does not furnish the natural food of the reindeer, namely the reindeer moss. At this point, the story apparently ends, but enquiries show that the herd "stampeded" and only two were left, which were killed, as it was too expensive to look after them. Another suggestion is that the wild dogs, which are numerous about that vicinity, enjoyed the provision supplied by the Government. It is also suggested that the deer betook themselves to the herds of their relatives, the caribou.

In any case, the experiment inaugurated by the Hon. Frank Oliver and greatly lauded by his friendly organs as being a boon to the country by the introduction of a new source of food, has proved anything but a success.

But that there was something inherently wrong in the way it was handled, and that the failure is not to be expected under other management, is certain, because the similar experiments in Alaska and Labrador have been so remarkably successful. Evidently, the U.S. Education Department, in Alaska, and Dr. Grenfell, took other, and more likely means, and reaped accordingly.

The only deduction from this work of Mr. Rogers' is that the plan should be tried again, with methods in harmony with those in use in Alaska and Labrador, and success should be expected then.

In his very interesting book, "Canada, the Country of the Twentieth Century," published by order of Sir George Foster, Minister of Trade and Commerce, Mr. Watson Griffin describes the so-called "Barren Lands," and then goes on to say: "The question arises, if the 'Barren Lands' are not suitable for agriculture, are they good for anything? Have they any source of wealth?" And then he proceeds: "First of all there are millions of caribou or reindeer . . . If domesticated they would furnish a livelihood for thousands of people. Great meat-packing factories could be established, and even fresh meat might be shipped out during the short season of Hudson Bay navigation. A large number of people might be employed in tanning and dressing the skins, which would find a ready market both in Southern Canada and in Europe."

Such is the opinion of one who has studied the possibilities of Canada for many years, until he has become an expert on the subject.

In a booklet on "General Information regarding the Territory of Alaska," issued by the U.S. Department of the

Interior, there is found the following:—"The importation of reindeer from Siberia into Alaska began in 1892, in order to furnish material for food and clothing for the Eskimo in the vicinity of Behring Straits. In 20 years the reindeer industry has made the natives inhabiting the coastal regions from Point Barrow to the Alaska Peninsula civilized, thrifty men, having in their herds assured support for themselves, and opportunity to acquire wealth by the sale of meat and skins. . . . The total income of the natives from the reindeer industry during the fiscal year 1914-15 was \$81,997."

At the present time the Rev. W. G. Walton, for the last twenty-five years an Anglican Missionary, whose district comprises some 800 miles in length along the east side of the Hudson's Bay, and whose people are both Eskimos and Indians, is trying to secure help from the Federal and Provincial Governments to prevent starvation among the natives. He speaks from a long and bitter experience in the Canadian Northland, and in speaking of the reindeer in an interview in a daily paper, says: "Reindeer would solve many of the Indians' and Eskimos' difficulties of life; they would furnish a certain amount of food, and, above all things, would furnish the clothing that is absolutely essential to life in snow houses and occupations of great exposure."

We Canadians point with pardonable pride to the map of the Dominion covering the Northern half of the continent. We have settled and partially developed a narrow strip from Ocean to Ocean, and in time will colonise the large tract of timbered country to the North of the settled area. We do not know very much of the third, or Northern portion, and look upon it as the home of fur bearing animals and the breeding ground of countless wild fowl, yet possessing little or no economic value. We do not think of the 'Barren Lands' as a source of great, but undeveloped wealth, because we do not realise or appreciate the possibilities of the reindeer industry and what it might mean to us as a nation. Yet for every reason that prompted the United States to introduce reindeer into Alaska, we have as many or more:—

First—The utilization of a vast territory unsuitable for agriculture, or for the raising of cattle or horses;

Second—The providing of winter transportation of mails, passengers and freight to those parts but poorly served by dog teams;

Third—The development, exploration, education and policing of the North at all times of the year;

Fourth—The encouraging of prospecting for the mineral wealth that is already known to exist, by affording easy transportation and food supply to parts at present practically impossible;

Fifth—The utilization of the Hudson Bay Railway for the shipment of reindeer meat and products;

Sixth—The vital and important assistance to the missions, increasing their efficiency, as well as their health and comfort;

Seventh—The solution of the problem of the natives, both Indian and Eskimo, by making them producers instead of burdens upon the country; and

Eighth—and most important of all—The increase of the food supply for Canada and the Empire.

Surely, in view of these facts and deductions, there is every reason to hasten the inauguration of the introduction of reindeer into our Northwest.

TO GET DOMESTIC FUEL FROM LIGNITE.

The Advisory Council for Scientific and Industrial Research has been informed by the Government that the council's recommendation that a plant be erected in the province of Saskatchewan for the production of a high grade domestic fuel from the lignite of eastern Saskatchewan has been approved. The Government has provided a sum of \$400,000 for the construction and operation of this plant.

In this undertaking the Dominion Government is acting in co-operation with the Governments of the provinces of Saskatchewan and Manitoba.

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Municipal Finance

MUNICIPAL SINKING FUNDS IN PROVINCE OF QUEBEC.

We have been examining the new act establishing a Municipal Department in the Province of Quebec and we can honestly congratulate the government on the thoroughness with which it means to administer local affairs. It has been said that it is a strong act. It is. Every opportunity given for good local government and none for maladministration, and in the hands of a good minister, such as the present incumbent, the department can be made to serve well the citizens of the municipalities that comprise the province. . . . If we have any criticism to offer it is on the low rate of interest that the government gives to the municipalities for their sinking funds, particularly in view of the fact that money is very dear to-day and likely to be for some years.

According to the Act, each municipality must provide a sinking fund for every issue put out and the said sinking funds must be invested with the government which allows 3½ per cent interest. This is too low, though there is no doubt about the necessity of an adequate sinking fund to retire each bond issue at maturity, and that the sinking fund should be kept up. Now this so far as the Province of Quebec is concerned is a long way from being the fact. There are many councils who have not paid anything to their sinking funds for years—some have ignored the fund altogether—in spite of the by-law establishing a sinking fund that the councils have to pass with each issue made. There is also another side of the question which must be considered. Outside altogether the moral and legal obligations of the councils to see that their sinking funds are up-to-date there is the loss to the community when they are not carried out. For instance, three long term issues of a certain municipality mature during 1920, 1921, 1922, all bearing interest at 4 per cent. In none of the cases has the sinking fund been maintained and consequently new issues must be made to retire the old ones, for which at least 7 per cent interest has to be paid. In all the cases the utilities for which the original issues were made have long since served their usefulness and purpose, so that the citizens of this generation will not only be forced to pay three high principal sums for something they have not got, but must pay an additional interest of 3 per cent over those who did enjoy the original utilities, but who did not pay a cent of the principal. And these are not exceptional cases by any means. As a matter of fact most of the municipal borrowings within the Province of Quebec for the last few years and will be for the next few years, were and will be to retire old issues. Is it any surprise then that the provincial government, through its new municipal department, is determined to see that sinking funds are in the future properly provided for.

But there is a phase of municipal financing that the new act does not touch—the bringing up-to-date of the sinking funds to retire the present indebtedness of the municipalities which in round figures amount to \$167,000,000. Many of these debts have many years to run before they mature and though the average sinking fund is in a bad condition there is every reason why they should be brought up-to-date, or at least put into such a position that they will retire the bonds, if at all possible. Frankly we have for a long time been rather pessimistic about bringing old sinking funds to date, but recently we have had the opportunity of studying a scheme worked out by the Quebec Savings and Trust Company of Montreal for this very purpose. The idea is really the outcome of a letter sent out by this company offering its services to the municipal councils of Quebec to act as trustees of sinking funds. In reply to the letter, a number of councils expressed a desire that the company should take care of their sinking funds, only they were on the short side. How were they to get out of the difficulty? Hence the scheme, which is at once simple, and practical and lays no undue burden on the municipality. The procedure is something after the following: Each issue to be considered is closely examined, together with its sinking fund, and then adjusted by adding a small percentage to the annual payments sufficient to pay off the debt at the proper time, all of which means that instead of a council having to suddenly find a big sum

to make up the deficiency caused by the maladministration of its predecessors the burden is spread over a number of years.

To our mind such a scheme is an excellent one and deserves every encouragement. It eliminates at once the idea that municipal debts are permanent. It brings home to the councils the state of their sinking funds and at the same time encourages them to make a start to replenish them. One of the curses of municipal financing has been the ease with which money could be borrowed at low rates of interest. The day of easy money is over and the sooner that the councils realize that they can no longer borrow at 4 per cent, the better will they appreciate the necessity of bringing up their old sinking funds to date and thus be able to retire the low interest bonds at maturity. Supposing every one of the outstanding municipal debts of Quebec could be retired at maturity without re-borrowing, what a tremendous saving it would mean to the province and the municipalities. The saving would be the difference between the old rate of interest—four per cent—and what would be the present rate of interest—seven per cent—if the money had to be borrowed to-day. Taking the bonded municipal as \$167,000,000 it would mean a saving of over \$5,000,000 per year, an amount to build sufficient utilities to make municipal Quebec into a veritable paradise. These figures are large, but they apply in proportion to each municipality, and any system that would even help to make such a position possible such as that worked out by the Quebec Savings and Trust Company should receive a close investigation by each council.

BRANDON'S FINANCES IN GOOD ORDER.

In a letter to a financial contemporary City Treasurer Sykes of Brandon says in part:—

"There was and is no foundation for the statement that Brandon, apart from any other city of the West, is facing a serious financial crisis. It is extremely unfortunate that the confidence of the investing public in Brandon's administration should be sacrificed to the desire for press sensationalism," he adds, referring to the unwarranted statement about Brandon's financial position which recently appeared very prominently in a Winnipeg daily.

"An examination of our balance sheet alone will refute any suggestion of unsoundness. The sinking fund invested in war loan bonds is nearing the million dollars, and is more than one-third of our debenture indebtedness. We have over three million dollars of capital assets in addition. It is true, in company with practically all Canadian cities and towns, we find it difficult to liquidate the taxes receivable, and this constitutes a menace which must not be overlooked, but which is less pronounced in Brandon than with most of our more unfortunate neighbors.

"Our relations with the Imperial Bank of Canada have been most cordial, and funds to meet our liabilities made necessary by the delayed payment of taxes, furnished without hesitation.

Through the increase of its sinking fund, the net debenture debt of Brandon is steadily dwindling. At the end of 1917, the net debt was down to \$2,313,622. The sinking fund reserves amount to \$814,168. Of this amount \$715,712 is invested, the balance being in the form of cash.

Including reserves for depreciation of capital assets and loans to be repaid from sale of debentures, capital liabilities amount to \$2,379,783. As the capital assets total \$3,751,616, of which \$2,764,255 are in structures and other improvements, there is a capital surplus of \$1,371,893.

Current assets aggregate \$672,243, of which the principal items are revenues and accounts receivable, totalling \$411,000. Against this there stand current liabilities and reserves of \$745,626. Capital cash reserves are short by \$7,755, leaving a deficit on current account of \$65,627. Current liabilities include loans to be repaid from current revenues amounting to \$440,656, while substantial reserves are allowed for uncollectable taxes, interest on funded debt accrued but not due, new construction and depreciation.

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TO THE MUNICIPAL TREASURERS, ACCOUNTANTS, CHAIRMEN OF FINANCE, ETC., OF CANADA

In the fall of last year the Canadian Municipal Journal announced that arrangements were being made to hold a conference of Municipal Treasurers, Accountants, Chairmen of Finance, etc., in Toronto. Owing to the war it was considered wiser to postpone the conference to a later date. The war is still on, with no sign of peace in sight, and it is now being suggested that as a number of papers have already been prepared for the conference, that they should be published at an early date in a special number of the Journal, and a conference called later to discuss the papers under the different headings, thus giving every municipal secretary-treasurer in Canada an opportunity to study the ideas and conclusions of Canada's leading municipal financiers and so fit each delegate to discuss the problems in the light of his own experience. We have fallen in with the suggestion and now announce that in the course of the next few months we will publish a special number of the Journal in which the papers will be embodied. The articles will deal with the following subjects, the writers to be announced in our May issue.

CITY TREASURER AND HIS STAFF.

Distribution of duties, discipline, encouragement and remuneration.

Qualifying examinations and graduation.

INCIDENCE OF TAXATION.

Present incidence—ownership.

Proposed incidence—occupation.

Proposed incidence—occupation and ownership.

MUNICIPAL ACCOUNTING.

Cost accounts and stock and store accounts.

Prescribed forms of revenue accounts, capital accounts and balance sheets.

Double account system.

Practical vouching and certification of expenditure.

PREPARATION OF ANNUAL FINANCIAL STATEMENTS.

Government requirements as to Statistics.

Statistics vital to welfare of municipality.

Publicity and its educational value to citizens and to prospective buyers of a municipality's bonds.

AUDIT OF ACCOUNTS OF MUNICIPALITY.

Internal or staff audit.

Complete or professional audit.

LOANS AND BANKING.

Flotation of debentures.

Refunding.

Sinking Funds and administration of.

UNIFORM SYSTEM OF MUNICIPAL ACCOUNTING.

General nomenclature and standardization of accounts and details.

LOCAL GOVERNMENT BOARDS.

Legislative powers and control.

Utility of Special powers compared with comprehensive powers under a general municipal act.

Sweeping away of special charters and simplification of procedure.

Uniformity of general powers and elimination of special by-laws and their effect on administration of municipality.

CITY OF EDMONTON WATERWORKS DEPARTMENT SHOWS A LARGE SURPLUS FOR 1917.

City Commissioner A. G. Harrison, of the City of Edmonton, advises that the Waterworks Department of that city shows a large surplus for 1917.

The financial statement and balance-sheet and the net result of the year's operation and management for the Waterworks Department for the year ending December 31st, 1917, show that after all expenditures have been met, including Debenture Interest, Sinking Fund, Depreciation and Bank Interest, as well as Maintenance and Operation charges, there is a surplus of \$38,189.75. This is the best showing this department has made in the history of the city.

For the year 1916 the surplus was \$24,410.04.

The total revenue of the Department for the twelve months ending December 31st, 1917, was \$368,868.15,

The total expenditure was \$330,678.40.
 The operation charges amounted to \$160,920.72.
 The maintenance charges amounted to \$22,986.42.
 The capital charges, including depreciation, were \$146,771.26.

Total mileage of mains under pressure in the system—164.8 miles.

Total cost of watermain maintenance for the year—\$6,346.95, making the average cost of maintenance per mile, \$38.70.

During the year 168 new water services were installed and 132 house sewer services.

Total number of house sewer services to date—9,602.

Total number of water services—10,829.

Average cost of maintenance per water service—73c.

During the year a normal domestic pressure averaging fifty pounds per square inch has been maintained throughout the system on both sides of the river, above the hill, while the pressure on the flats has average one hundred and ten pounds per square inch.

The Fire Department has been enabled by means of its own equipment to boost the water pressure for fire fighting when, and where necessary, during the past year. This eliminates the necessity of boosting the pressure over the entire system of one hundred and sixty-four miles of mains and protects the entire system as well as the High Deputy Pumps at the Pumping Station against unnecessary strain.

The growth of the system has been remarkable during the last ten years. In 1908 the city had installed 2,520 water services, 200 hydrants and 48.8 miles of water mains. The revenue that year was \$49,633.67. In 1917 the number of water services was 10,829, fire hydrants 797, miles of water mains 164.8. The revenue was \$368,868.15.

The number of water meters in use in the city is 7,700.

Average cost of maintenance per meter is 96½c.

Since the installation of meters a great saving has been effected in the amount of water pumped.

Superintendent J. W. Turner and his staff are to be congratulated on the showing made, which is more remarkable owing to the world-wide adverse conditions as regards cost of labor and material.

The service given has been constant throughout the whole period, and by regular daily tests the water supply is shown to be free from all contamination. One pound of liquid chlorine per million gallons was used to sterilize the water and that was all that was found necessary, and proved to be far more economical than the old hypochloride of lime system.

NEW MUNICIPAL ENGINEERING ASSOCIATION.

At a meeting of the Engineers' Section of the Ontario Municipal Association it was decided to form a separate association to further the operating and engineering interests of municipal electrical utilities. The new name of the organization will be The Association of Municipal Electrical Engineers of Ontario.

The following officers will control its destinies for the coming year. President, Mr. R. V. Buchanan, London; Vice-President, Mr. N. I. Sifton, Hamilton; Secretary, Mr. S. R. A. Clement, Hydro-Electric Power Commission, Toronto; Treasurer, Mr. R. C. McCollum, Hydro-Electric Power Commission, Toronto; Chairman of Standing Committees, Messrs. Oswald H. Scott, Belleville; V. S. McIntyre, Kitchener; E. Stapleton, Collingwood, and R. H. Martindale, Sudbury.

The first meeting of the new association will be held at Niagara Falls, Ontario, on June 13 and 14, 1918.

RAISING HOGS.

The Commissioner of Conservation has issued a booklet "Garbage as Food for Hogs," from which the following is taken:—

"The following is Section 88½ of The Animal Contagious Diseases Act:

'The feeding of swine upon garbage or swill, either raw or cooked, obtained elsewhere than on the premises where fed, is prohibited, unless special permission is first obtained from the Veterinary Director General.'

"Anyone contemplating feeding garbage other than their own kitchen and garden refuse, should write to the Veterinary Director General, Ottawa, for full information regarding it."

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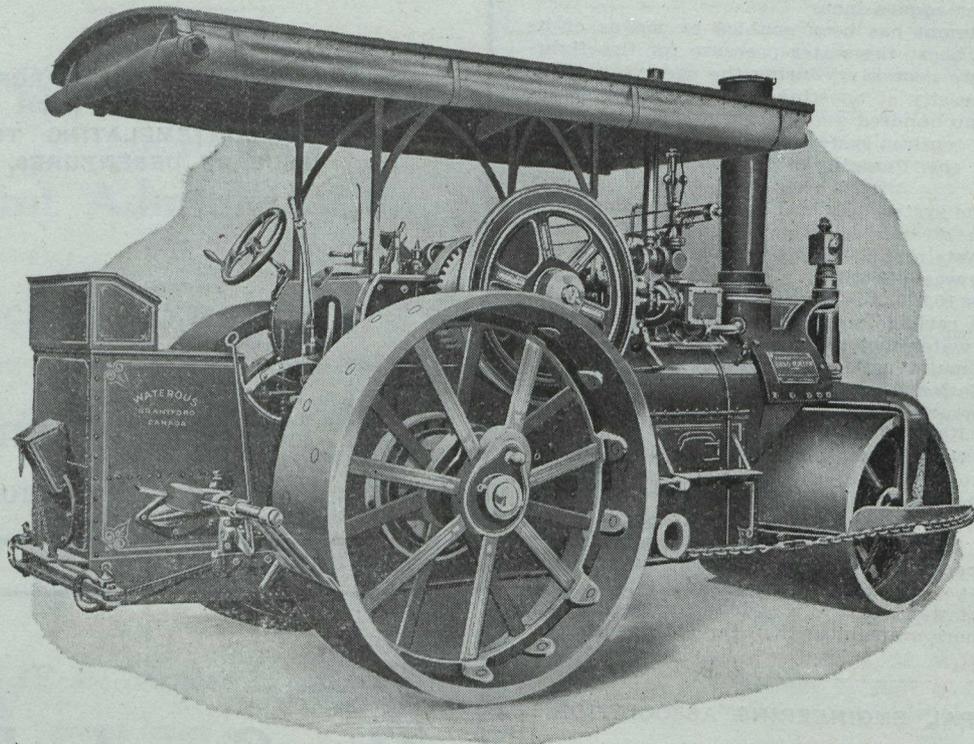
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Explanation of our deferred payment plan on application.



Every Ton of Freight on the Highway is a Ton off the Railroads

WAR TIME conditions demand rapid extension of good roads. Railroads are breaking down under the double load of war traffic and ordinary commercial freight. Some years ago the United States started developing good roads — to-day they are reaping the benefit of this move — thousands of tons of freight are now being handled on these roads that would otherwise be tied up in the freight yards.

THINK IT OVER

Waterous

BRANTFORD ONTARIO, CANADA

SUN LIFE KEEPS GROWING

THE results of operations for the year 1917 show a continuance of the notable expansion that has marked the career of the Sun Life Assurance Company of Canada. In Assets, Income, Surplus, New Business, and Total Business in Force substantial increases are recorded over the corresponding figures for previous years.

RESULTS FOR 1917

Assets at December 31st, 1917.	- - - - -	\$90,160,174.00
Increase		7,211,178.00
Cash Income	- - - - -	19,288,997.00
Increase		789,866.00
New Assurances issued and <i>Paid for in Cash</i>	- - - - -	47,811,567.00
Increase		5,039,270.00
Assurances in Force at December 31st, 1917.	- - - - -	311,870,945.00
Increase		30,433,245.00
Profits paid or allotted to Policyholders	- - - - -	1,560,389.00
Increase		449,488.00
Profits paid or allotted to Policyholders, in past five years.		5,224,963.93
Total Payments to Policyholders, 1917.	- - - - -	8,840,245.00
Payments to Policyholders since organization	- - - - -	\$69,094,816
Assets held for Policyholders	- - - - -	90,160,174
		\$159,254,990
Premiums received since organization	- - - - -	153,331,223
Payments to Policyholders and Assets held for them exceed the premiums received by:		\$5,893,264
Undivided surplus at December 31st, 1917, over all liabilities including capital	- - - - -	\$8,550,761.00

THE COMPANY'S GROWTH

YEAR	INCOME	ASSETS	LIFE ASSURANCES IN FORCE
1872	\$ 48,210.73	\$ 96,461.95	\$ 1,064,350.00
1887	477,410.68	1,312,504.48	10,873,777.69
1897	2,238,894.74	7,322,371.44	44,983,796.79
1907	6,249,288.25	26,488,595.15	111,135,694.88
1917	19,288,997.68	90,160,174.24	311,870,945.71

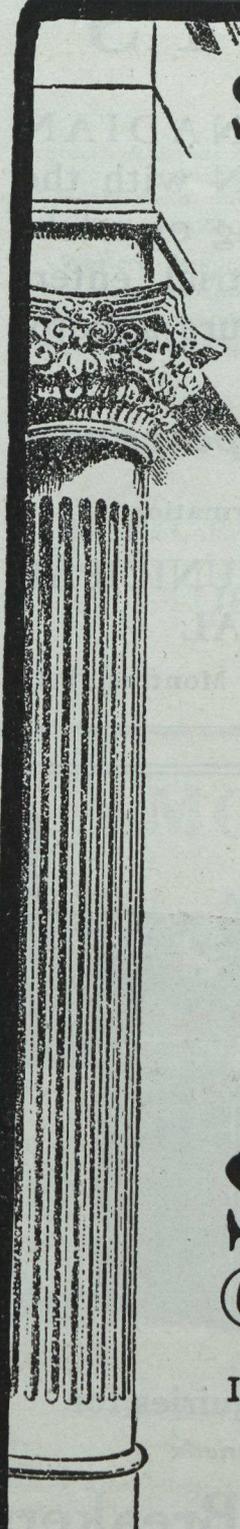
The Company takes this opportunity of thanking its policyholders and the public generally for the continued confidence and goodwill of which the above figures give such strong evidence.

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1871

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T. B. MACAULAY, President

1917



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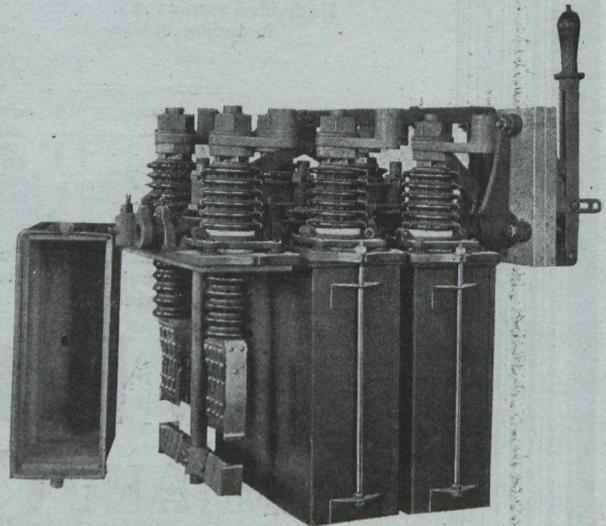
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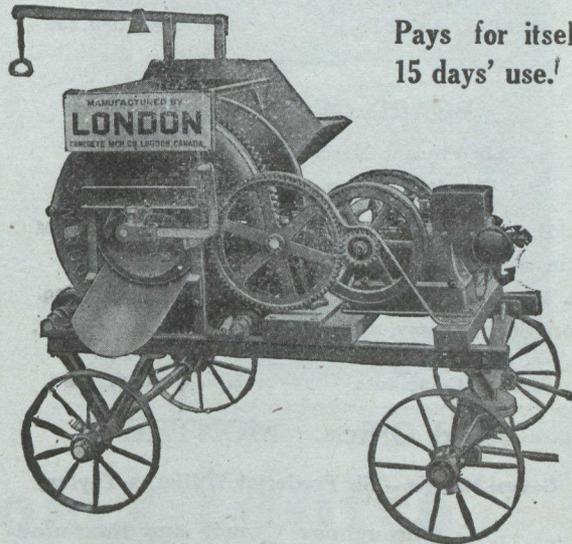
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