

# Conservation

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## Phosphate in Western Canada

### Important Discovery of Fer- tilizing Agent Near Banff, Alberta.

A discovery of the highest importance in connection with the future development of agriculture in western Canada has recently been made by officials of the Conservation Commission, who report discoveries of phosphate near Banff, in the Rocky Mountains National Park. While it is yet too early to state definitely, it is expected the deposits will prove to be comparable both in extent and quality with those of Wyoming, Utah, Montana and Idaho, these being far greater than in any other country.

Supplies of phosphate at a low price have a very important bearing upon the agricultural industry of a nation. Western Canada is naturally a farming country but is far removed from the hitherto discovered deposits of phosphate in Canada, which are confined to the Ottawa district. Great deposits of phosphate occur in Montana, Idaho, Utah and Wyoming in the United States, but these again are situated a long distance from the Prairie Provinces; again, it is doubtful whether supplies from the United States could always be assured, for, at a Conference of the Governors in 1908, the wisdom of permitting the exportation of so essential a quasi-proprietary commodity was questioned.

While very little fertilizer is now being used in Western Canada, there is no doubt that the land would give an increased yield by its use; soil fertility would be maintained instead of being exhausted, which will be the ultimate result if the present practice is followed indefinitely. The following example illustrates the amount of high grade phosphate rock which it would be necessary to add to the land annually as fertilizer to replace the phosphoric acid removed from the soil by the crops in the three Prairie Provinces.

In 1913 there were 16,726,400 acres under cultivation in these

## Protection of Game

### Reasons Why the Sale of Game should be Totally Prohibited

Dr. William T. Hornaday, America's leading conservationist with respect to wild life, is an uncompromising advocate of total prohibition of the sale of game. He gives the following reasons in support of the measure; some refer only to United States condi-

ten years longer, all our feathered game will be swept away.

(3) Because it is a fixed fact that every wild species of mammal, bird or reptile that is pursued for money-making purposes eventually is wiped out of existence, even the whales of the sea are no exception.

(4) Because the laws that permit the commercial slaughter of wild birds for the benefit of less than 5% of the inhabitants of any estate are directly against the

## Do You Think of Safety?

When you leave your home for your day's work, do you remember that constant care is necessary? Do you, when you arrive at the office, factory, or shop, bear in mind your own safety and that of others? To think first of safety means consideration for others; it means lives spared and fewer vacant chairs.

Most accidents can be prevented, but what is each one of us doing to prevent accidents? We must not expect that care will be taken for our safety and never take thought for that of another.

It is estimated that a man's average earning power is \$700 per annum. Some of us receive more and some less, but whatever we earn each year will be reduced after a serious accident and will be stopped by death. What are you going to do about it? The obvious thing to do is to learn safety—to insist upon others doing their work in the safe way—to point out to the proper officials unsafe practices and unsafe machines—to take no chances. It may seem unnecessary to tell you this, but what of each year's toll of life and limb? Get the safety habit and pass it along as an heritage to the children.—*Bulletin issued by Ontario Safety League.*

tions while others are of general application. Coming from an undisputed authority, they can be neither ignored nor denied by opponents of the measure.

(1) Because fully 95% of our legitimate stock of feathered game has already been destroyed.

(2) Because, if market gunning and the sale of game continue

provinces and the depletion per acre annually is equivalent to the phosphoric acid contained in 60 pounds of high-grade phosphate rock. At this rate, 501,800 tons of high-grade phosphate rock would be required each year simply to offset the depletion of the land already under cultivation in Manitoba, Saskatchewan and Alberta.—W.J.D.

interests of the 95% of other people to whom that game partly belongs.

(5) Because game killed for sale is not intended to satisfy hunger. The people who eat game in large cities do not know what hunger is, save by hearsay. Purchased game is used chiefly in over-feeding; and as a rule, it does far more harm than good.

A great many fires are caused by accumulations of rubbish, oily waste and rags. Particularly is this true of accumulations of rags which have been saturated with linseed oil or furniture polish and used in dusting. These are very often left in some closet or under a stairway, frequently causing serious trouble.

## Rural Fire Prevention

### Suggestions for Reducing Fire Loss on the Farm and in the Village

Farmers and villagers should be among the most active of fire protectionists. While most villages have some fire fighting system, few have paid departments. Living isolated from auto pumping fire engines, chemical and other apparatus, and fire alarm boxes, the farmer or the villager must constitute himself an individual fire department. It is in the autumn and winter when the stoves, the open fireplaces and the kerosene lamps come into use that the fire danger is greatest. Eternal vigilance is the price of safety.

Many country and village homes have a "store room" into which, during the cold months, rubbish and debris are thrown indiscriminately. Newspapers, rags, old clothes, etc., constituting the most inflammable collection, are thrown into this room, usually the worst—from the fire protection standpoint—in the house. Most villagers use the kerosene lamp or possibly a tallow candle while searching in the cellar or store room. The lamp or candle is put down, a rat runs out and, in the excitement, especially if a woman is present, the light is frequently knocked over and a blaze is almost certain to result. Water is hard to get, pumps freeze up and the farmer or villager is powerless when the fire develops.

During the summer, English sparrows carry nest-making material into cracks and crannies, building nests close to chimneys and flues. Chimney swallows, nesting in the stacks, knock the mortar from the bricks and make holes through which sparks find their way to the sparrow's nest. A mysterious fire results, generally on the coldest night of the year.

All flues and chimneys should be examined before the fires are lighted in autumn. Water should be drawn at night and placed in pails where it will not freeze. Roofs should be examined and cleared of curling shingles and other spark catchers. The store room should be the most carefully kept

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room in the house. Rats, mice and squirrels should be cleared out. Lanterns should be kept filled, cleaned and with wicks of proper length. A dirty, short-wicked lantern, full of oil, is a bad fire hazard.

All dead herbage should be removed from the house and out-buildings. Sparks traveling far on a winter gale and, alighting on dry herbage, are dangerous. Bonfires are a bane. Most persons who have large yards could well afford to build a small furnace of brick, covering the stack with wire netting, and thus burn the refuse without danger. Smoking about the barns should be prohibited and lanterns used in barns should be hung where stock cannot kick them over. At all times, the lantern should be kept in a safe place. A small electric torch is a good investment where hay and fodder must be reached in the darkness. Matches should be kept in a tin box tightly covered and placed out of the reach of small children. No member of the family should search in cupboards or drawers with a match for a light. This is an imperative rule which is frequently violated.

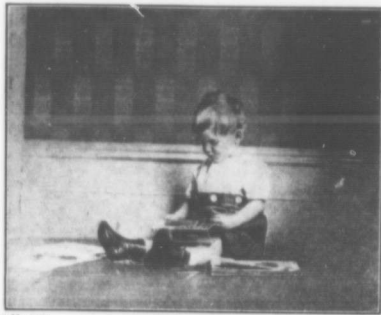
Where wood is the heating fuel, there should be a wire front over the fireplace to stop the sparks. Where coal is used, a wide fender will often stop a threatened blaze. Coal, "snapping" out into the room, causes many fires. The place for ashes is a metal can and the place for the can is where its sides will not come into contact with wood. Because they do not show sparks, is no reason for believing that wood or coal ashes are not dangerous. Remember that ashes, especially the finer kinds, hold heat for a long time.

The foregoing cautions may seem simple but are frequently forgotten. It is the unusual that often happens. Teachers in village and country schools should educate the children to think of the dangers. One sharp-eyed boy is as good as a fire department.

#### WOOD BLOCK PAVEMENTS

Cresoted wood block pavements are rapidly becoming recognized as a most satisfactory street paving material. They are noiseless, durable, sanitary, and, if properly treated and laid, are distinctly economical. The failures in the past which have in some cases prejudiced cities against wood blocks have been corrected, so that there is no excuse now for the existence of any wood block pavement which doesn't meet all of the modern requirements of service. The improvements in the methods of treatment and laying are largely the result of organized activity by various associations representing either the lumber interests or wood-preserving plants.

In the United States 150,000 children are enrolled in the bird study classes of the Audubon Society for the protection of birds.



Car. No. 110

#### THE INNOCENT CRIMINAL

683 fires were caused last year through children playing with matches

### To the Mothers of Canada

#### An Appeal for Greater Precautions in the Use of Matches

No fewer than 683 fires, one million and a half dollars damage to property and the loss of thirty-eight lives occurred during the year 1914 as the direct result of children playing with matches.

Matches should, therefore, receive attention as a danger of primary importance. Keep the matches away from the children. Place them on a high shelf out of their reach, for they love to play with fire, and matches form an ideal toy from their point of view.

If it were only possible to convey in its hroid detail the account of the fires in Canada where thirty-eight children lost their lives, the excitement and nervous tension, the loss of property, the anguish of parents, the pain of the little child, some measure of reform might soon be effected.

Mothers should ever guard their children against matches, as they would protect them against a terrible and menacing enemy.

### Prepare for Spring

#### Home Gardens and Vacant Lots should have Autumn Cultivation

Custom or habit alone explains the fact that the home gardener almost universally leaves his garden plot in a neglected condition until spring. No attempt is made to prepare for the next season's planting.

If the farmer were to follow this system, the results would be disastrous. In the spring he would find himself with wet and heavy land, would be unable to work it and the delay would mean late crops, if any at all.

The garden should be dug in autumn, leaving the earth loose. If new soil is being used, the sod

should be turned under to a depth of four inches to ensure rotting. Vines, dead leaves, or weeds should be burned, and the ashes, together with a quantity of good stable manure, if available, should be dug well in.

The results of attention to his land in the autumn will fully repay the home gardener in the saving of time in the spring and in increased production.

### Placing the Responsibility

#### Insured and Agent Both Held Liable for Over-Insurance of Property

W. S. Ridgell, Chief Deputy Fire Commissioner for the State of Nebraska, in his annual report, in commenting on incendiary fires, says:—

"While some few fires are set for revenge and spite, fully 90 per cent. of the incendiary fires are due to over insurance. Insurance companies are responsible for this through their local agents. It is easy for a dishonest person to obtain insurance amounting to five hundred or five thousand dollars more than the insured property is worth. This excessive insurance makes it a great temptation to burn the property and obtain the cash. So flagrant are these cases that the Nebraska Legislature two years ago enacted a law and provided a penalty for both the local agent and the insured in case of over insurance. The law pertaining to this matter is as follows:—

Sec. III. OVER INSURANCE—PENALTIES. Every insurer who makes insurance upon any building or property or interest therein against loss or damage by fire, and every agent who issues a fire insurance policy covering any building or property or interest therein, and every insured who procures a policy of fire insurance upon any building or property or interest therein owned by him, is

presumed to know the insurance value of such building or property or interest therein at the time such insurance is effected. Any insurer who knowingly makes insurance on any building or property or interest therein against loss or damage by fire in excess of the insurable value thereof, shall be fined in a sum not less than fifty dollars nor more than one hundred dollars. Any agent who knowingly effects insurance on a building or property or interest therein in excess of the insurable value thereof, shall be fined in a sum not less than fifteen nor more than twenty-five dollars.

"We intend to enforce this law vigorously in every case where we find property over insured and the local agent or insured responsible. If we can bring the insurance agents of each town in the state to a realization of their responsibility and duty in personally inspecting property before insuring it, incendiaryism will decrease materially in this state."

#### SOME EXPERT ADVICE

At the recent convention at Chicago of the Associated Advertising Clubs of the World, the following significant statements were made:—

"Get the smaller towns around you lined up and working with the farmers to show them how to produce better crops, how to use the government bulletins, how to market their produce to better advantage, how to get railway and trolley lines and better highway systems. Promote a spirit of friendliness instead of one of red-hot rivalry. Get acquainted with your neighbor, you might like him."

"Unless a municipality does some municipal thinking, it will never attain full development as a municipality. The leading citizens must be able to see beyond their own interests. Every one who is able and willing to work must have an opportunity. It is idleness that kills. A municipality will not enjoy a healthy growth unless all parts of it are developed symmetrically. The leaders in a municipality should make a study of municipal conscience and consciousness—and there should be no selfishness mixed with it."

Canada is generally recognized as one of the foremost power-producing countries of the world. Her numerous rivers have immense potentialities and within the area of population reasonably to be anticipated in the near future, is estimated to have water power possibilities aggregating 17,764,000 horse-power, while some 1,712,163 horse-power of this amount has already been developed. Comparison with other countries establishes the Canadian standing among the industrial nations; power development on such a scale is significant of corresponding industrial activity.

## Commission of Conservation

CANADA

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CONSERVATION is published the first of each month. Its object is the dissemination of information relative to the natural resources of Canada, their development and the proper conservation of the same, together with timely articles covering town-planning and public health.

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CONSERVATION is mailed free to those interested in the subjects covered by the work of the Commission.

OTTAWA, OCTOBER, 1915

### MUNICIPAL IMPROVEMENTS

Almost without exception the municipalities of Canada are passing through a period of financial strait, when local improvement work has been curtailed and the strictest economy must be exercised.

The capital invested in so-called permanent improvements, totals a very large sum, and represents a great proportion of the taxes collected from the people. With this large expenditure in mind the question naturally arises "Is the money invested in local improvements being expended to the best advantage?"

In the matter of roadways, pavements and sidewalks, this question is causing a great deal of thought on the part of students of municipal problems. In many cities the streets are becoming sample sheets of the various kinds of paving materials. The influence or persuasive ability of salesmen may introduce new systems of roadway construction without number. These compositions are adopted and used, regardless of climatic conditions or suitability for the traffic requirements. Each municipality depends upon its own engineering advice. In rare instances only is any testing equipment available. The result is that no uniformity of value in paving or sidewalk material is secured.

Canada has reached the stage when municipalities should have available a Bureau of Municipal Research, as part of a Department of Local Government in each Province. The need of such a source of information is urgent. Municipal government and uni-

versal engineering are being conducted in too haphazard a manner for the general and permanent public good. This Bureau should deal with such questions as the testing of materials and the adoption of standards. These standards would be based upon the practical requirements. For instance, while a business thoroughfare with heavy traffic requires a certain surface material and depth of foundation, a residential street with a minimum of traffic does not demand the same wear-resisting surface nor sustaining foundation. In like manner, also, sidewalk standards should be adopted suitable to traffic requirements.

The question is a large one: Millions of dollars of the people's money are being spent annually and the credit of municipalities is being pledged to carry out work of a supposedly permanent character, in the hope that it will prove satisfactory. In the absence of any definite information to the contrary, advice or prejudice in favour of certain materials cannot be offset. No doubt if more accurate data were available, the money now spent on many of these improvements could be made go much farther by more judicious selection of methods and materials.

### SIXTH ANNUAL REPORT

The Sixth Annual Report of the Commission of Conservation, which was issued recently, serves to indicate the wide range of interests with which the Commission is concerned. The address of the chairman, Sir Clifford Sifton, presents an excellent summary of the work undertaken during the past fiscal year. It is of special interest to those whose time may be too limited for more detailed reading.

Although some aspects of the Commission's work have been unavoidably hampered by the war, other branches of the work have proceeded in a gratifying manner. This is perhaps especially true of town planning. Following the National Conference on Town Planning which was held in Toronto in 1914, the Commission secured the services of Mr. Thomas Adams, a town planning expert of international repute. Mr. Adams' services are much in demand throughout the country and his work in behalf of town planning in Canada is certain to be of lasting benefit.

In connection with forestry, steady progress is being made. Reliable inventories of Canada's forests are being prepared expeditiously and for the first time. Fire prevention is being urged especially along railway lines, and in this, with few exceptions, the railway companies are co-operating heartily.

The value of the agricultural surveys and illustration farms inaugurated by the Commission some three years ago, is adequately outlined in the report and an inter-

esting paper on recent aspects of agricultural instruction is also included.

The conservation of minerals, the protection of sea birds, the water power problems arising from conditions along the international boundary are each considered by well-known authorities.

The report is well illustrated and a carefully prepared index makes it of unusual value for reference purposes.

### Fish Scrap as Fertilizer

#### Extensive Demand for Commercial Fertilizer—Financial Difficulties

Artificial fertilizers are meeting with an increasing demand in America. This, added to the sudden shutting off of the supply of German potash, has focused the attention of the governments of the United States and Canada upon their respective sources of commercial fertilizers. The three elements chiefly sought are phosphates, potash and nitrogen. These ingredients in varying proportions are used by farmers as fertilizers or "soil amendments."

One excellent source of potash and nitrogen and to a lesser extent of phosphates is fish scrap. This material is manufactured from the offal at canneries and other fish curing establishments. As yet but a comparatively small proportion of the waste in connection with the fisheries is utilized, owing chiefly to the economic problems of manufacturing. The fish reduction industry is carried on only for a few months each year and, as a result, the capital invested is unproductive for a considerable portion of the year. To overcome this, efforts have been made to couple the industry with some other that would make it possible for the longer periods—possibly for the full year. In this connection, the work of the Federal government at Clark harbour, Nova Scotia, is worthy of note. For several years, the Department of Marine and Fisheries operated a fish reduction plant there chiefly to provide a market for the dog fish which infested the neighbouring waters. During the past summer the plant was placed under the control of the Department of Agriculture and extensive experiments were undertaken to ascertain the possibility, commercially, of utilizing the extensive kelp beds found off the southern coast of western Nova Scotia. The investigations, while not complete as yet, show much promise. These kelps, rich in potash and nitrogen, make excellent fertilizers. If, by combining the kelp industry with the fish scrap industry, the two can be placed on a commercial basis, a very serious waste will have been turned to excellent account.—A.D.

### Brush Piling and Burning

#### Fire Hazard Materially Reduced by this Means

The veteran Ottawa lumberman, Mr. J. R. Booth, has caused the piling, ready for burning at a safe time, of inflammable debris on a narrow strip of his limits parallel to a portion of the Canadian Northern Ontario railway, east of North Bay. This progressive action in connection with forest fire prevention will materially reduce the fire hazard to valuable timber lands in the vicinity. Similar action by other limit-holders would undoubtedly be a paying investment.

Some of the governmental fire-protective agencies have given attention to the general situation caused by the accumulation of logging debris in proximity to railway lines. The Forest Act of British Columbia provides that the Provincial Forest Board may declare inflammable material which endangers life or property a public nuisance, and may order its removal.

In Quebec, the provincial government has under consideration the issuance of an order-in-council requiring the holders of licenses on Crown lands to dispose of inflammable debris on a strip one hundred feet wide, adjacent to railway rights-of-way. Such action will well accord with the progressive attitude of the Quebec government toward the conservation of its forest resources.—C.L.

### FORESTRY WEEK AT SAN FRANCISCO EXHIBITION

The week beginning October 18 will be forestry and lumbering week at the Panama-Pacific International Exposition at San Francisco. On Monday, October 18, will be held a meeting of the Society of American Foresters. The following day will occur a largely-attended meeting of the Western Forestry and Conservation Association, at which will be discussed questions relating to better methods of forest protection, forest taxation, etc. On Wednesday, October 20, the American Forestry Association will meet, followed on October 21 by a meeting of the Pacific Logging Congress. The last two days of the week will be devoted to an excursion to the redwood logging camps, at Eureka, California. It is expected that these meetings will be attended by representatives from all parts of the United States and Canada.—C.L.

The state of Massachusetts has appropriated \$90,000 for the purchase of waste lands and their reforestation. The work of planting of the areas so acquired will be under the direction of the State Forester.



Cut No. 111

Look-out tower on the summit of Devil mountain, Quebec. This tower was constructed by the Lower Ottawa Forest Protective Association, which maintains a watchman at this point throughout the fire season. During the dry weather, this watchman is constantly on the lookout for forest fires.

Telephone communication ensures the prompt despatch of necessary men and supplies in case a fire is discovered anywhere in the surrounding country. This tower is located on the summit of the divide between the Gatineau and Liesse watersheds and affords a magnificent view of the country for many miles in all directions. An example of the efficiency of this arrangement was demonstrated recently, when a forest fire was located by the watchman at a distance of thirty miles. The use of the telephone permitted the fire being reported to the ranger concerned within a very few minutes. In many parts of Canada, the efficiency of forest protective work is being greatly increased through the construction of look-out towers, telephones and trails. Such improvements are greatly facilitated wherever there is co-operation between limit-holders, as in the case of the Lower Ottawa and St. Maurice Forest Protective Associations.

## Forestry in Great Britain

Experimental and Educational Work Being Conducted by Colleges

While the development of forestry practice has been slow in Canada, due to the vast quantities of virgin timber available at low prices, the developments in England have also been very slow, partly on account of the relatively small areas of Crown lands, and the large areas of non-agricultural lands held for park and estate purposes, and partly on account of the readiness with which timber supplies could be secured by importation.

A recent report of the Forestry Branches of the British Government calls attention to the fact that, until quite recently, the outstanding feature has been the absence of any form of encouragement of general forestry, aside from the cultivation of oak for

naval purposes. As the public interest in oak timber for the navy declined during the latter half of the 19th century, so the welfare of forestry was neglected until about 1880. However, no possibility of giving effect to a practical policy by means of funds voted by parliament arose until the Development Fund was established in 1909. Under this fund, educational work in forestry is being conducted, through grants to a number of colleges and universities, which are conducting research and experimental work, in addition to training men for the positions of foresters and woodmen. Advisory officers are also provided, who visit woods and advise owners as to the best methods of handling their forest properties.

A general survey of the situation shows that the total area of woodlands in England and Wales is 1,884,100 acres, of which over 95 per cent is privately owned, and is probably not producing more than one-half of its maximum yield; also that there are very large areas of uncultivated land which would produce better results, financially, from the growth of timber than from the present methods of utilization. In addition to the employment of a larger population through forestry work, there is the consideration that the total value of timber and wood-pulp imported into the United Kingdom in an average year (1912) is approximately \$180,000,000.

The area of Crown forests and woodlands is only 65,766 acres, consisting partly of the ancient hereditary estates of the Crown and partly of estates which have been acquired by the commissioners from time to time. There is, however, a very considerable additional acreage of non-agricultural Crown lands, which it is planned to reforest as funds become available. The Royal Commission on Coast Erosion and Afforestation estimated that there might be 2,500,000 acres of afforestable land in England and Wales. Most of this is in private ownership, though further purchases by the government are contemplated, for planting purposes, as rapidly as funds will permit.—C.L.

## NOVEL FOREST PROTECTION METHODS

One of the most important features in connection with the control of forest fires is their prompt discovery, thus rendering it possible in most cases to extinguish the fire in an incipient stage, at small expense and with slight damage. One of the recent developments in this work is the use of a hydro-aeroplane for the discovery of fires in the forest reserves of Northern Wisconsin. This is a lake region, and excellent results have been secured, one fire being accurately located at a distance of thirty miles.

## Purification of Water Supply

A New and Successful Process Being Used at Military Camps

Pure water supply is a factor of prime import in the selection of a military camp. Polluted milk and water are such prolific sources of disease that the most careful supervision of supplies is necessary. The milk problem is mitigated to a large extent by the use of the condensed article. So great are the difficulties in securing fresh milk that in many camps it is an unknown luxury.

It is to the water supply, however, that attention must be mainly directed, because it constitutes the chief consideration in camp sanitation. Various means have been adopted by municipal health authorities to afford greater

being absent in 50 c.c. quantities in 90 per cent. of the samples examined) per hour have been secured for the camp from the lower Niagara river, which, only two years ago, was reported by the International Joint Commission as unfit for human consumption.

## TRAINED HELP REQUIRED

Mr. Rhys D. Fairbairn, President of the Ontario Association for the Promotion of Technical Education, in an address delivered at the 1915 annual meeting of the Commission of Conservation, said: "There are probably 100,000 boys and girls in Canada of an age from 14 to 16 years who every year become engaged in occupations connected with the manufacturing, agricultural, mining, or transportation interests. The present general plan of education does not provide sufficiently for these young people. The approx-



Cut No. 112

Ultra-violet Ray Water Purifying Equipment.

protection, and many filtration plants have been erected. In several cities, the final sterilizing agent used in treating water has been chlorine. This, however, has one objection—its varying character. When used to excess, as is often necessary, it gives the water a very disagreeable taste. Efforts have been made to overcome this, but with little result, especially in water supplies containing considerable organic matter.

Of late years the French and Austrian military authorities have been experimenting with a small, ultra-violet ray equipment with such success that, prior to the opening of the military camp this year at Niagara-on-the-Lake, Ontario, it was decided to test the system, upon a comprehensive scale. The Niagara river, the source of the town's water supply, is so seriously polluted, and such excessive quantities of bleaching powder were required to protect the camp, that the water was rendered unfit for drinking. The apparatus for the new process consists of two mechanical filters, an ultra-violet ray sterilizer and a small gasoline engine to generate the necessary electric current. Since its installation, 2,000 gallons of pure water (practically a sterile water, colon

tect system has passed, and technical education must take its place. The increasing cost of living makes it essential that these young men and women should have opportunities to prepare themselves for positions which would bring them larger incomes. Every manufacturer knows that it pays to engage trained workers at high wages or salaries, in preference to cheap unskilled labour.

"Technical education, including training in agriculture, is essential to the future of Canada. It will require a large expenditure of money, but it is vital to the progress of the nation to have its young men and women properly trained for their life work. With the exception of the war, there is no other question before the people of Canada to-day of so great importance. If Canadian workers had the requisite training, many orders, which now go to foreign manufacturers would be filled in Canada. Not only that, but such training would be a great advantage in the intelligent development of the country's vast natural resources. It is not so much a question of the lack of capital that handicaps Canadian manufacturers as it is of not having sufficient skilled help."