

# Conservation

A monthly bulletin published by the  
Commission of Conservation, Ottawa, Canada.

VOL. IV

MAY, 1915

NO. 5

## Bad Roads are Costly

Farmers Handicapped by High  
Cost of Haulage

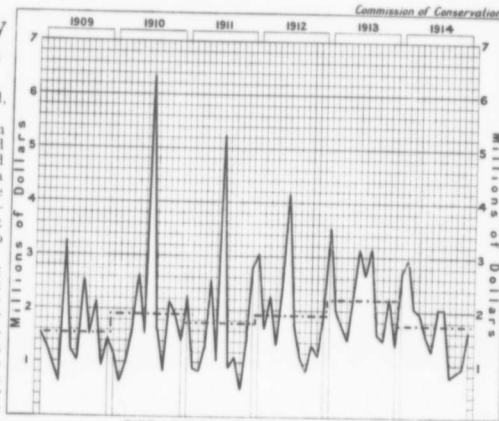
The question is often asked, "What do good roads cost?"

If this question were put in another form, viz., "What do bad roads cost?" the answer would bring home to the people of Canada what they are paying as a sacrifice to poor transportation facilities—this, in addition to the discomfort and dissatisfaction of having to travel over them.

One of the chief causes of young people leaving the farm is the lack of good roads. Rough and muddy roads retard social life, especially when, associated with the unpleasantness of driving, is the fact that the equipment becomes mud-spattered and requires constant washing. To avoid these and other inconveniences, farmers and their families remain at home, more or less in isolation, and, when the first opportunity arises, many of them leave the farm. There is but one remedy for this isolated condition—by means of good roads farmers and their families must be placed in touch with the social advantages of the larger communities. Just as soon as this condition is reached, the drain of population from the farm will decrease.

Of the economic losses due to bad roads separating the farmer from his market, that of cost of transport is most important. A comparison of the load one horse can haul on good and bad roads, respectively, shows that, on a muddy earth road, the amount varies from nothing to a maximum of 800 pounds; on a smooth, dry earth road, from 1,000 to 2,000 pounds; on a gravel road in bad condition, from 1,000 to 1,500 pounds; on a gravel road in good condition about 3,300 pounds; on a macadam road, from 2,000 to 5,000 pounds; and on a brick or concrete road, from 5,000 to 8,000 pounds. In 1906, the Bureau of Statistics of the United States Department of Agriculture, from about 2,800 county reports, deduced an average cost of 22.7 cents for hauling one ton over one mile of unimproved roads. The equivalent cost of haulage per ton over different roads, taking 2,000 pounds over smooth earth roads as a basis, would be as follows:

(Continued on page 18)



Cat. No. 96

Average Loss Line shown thus - - - -

## March Fire Record

A Large Increase in the Number of  
Small Fires

The Canadian fire record for March, of this year, is not one to be proud of. The year started well, and hopes were entertained that Canadians were going to make a considerable reduction in the fire waste. Compared with February the number of fires is as follows:

Fires over \$10,000.	Feb.	March
" \$1,000 and under \$10,000	24	20
" \$100 and under \$1,000	79	106
" \$1,000	187	198
" under \$100	291	364
	581	688

It will be noted that the greatest increase occurred in the smaller losses. The conclusion to be drawn from this is that a large proportion of them were preventable, and were discovered and put out when still in their incipient stages.

It is also a regrettable fact that during the month of March twenty-six persons lost their lives through fires.

Looking at the situation in even its most favourable light, there will be a demand for food that the world will find great difficulty in supplying.—Hon. Martin Burrell,

## Vacuum Street Cleaning

An Ideal System for Canadian  
Roadways

In Huddersfield, England, recently a demonstration was given of a motor-vacuum street cleaner, the invention of an Italian.

The machine is operated upon the principle of a rotary brush and suction, together with a system of pumps and jets for spraying atomized water on the road surface in front of the brush, thus insuring dustless and hygienic sweeping. The tests were made on various conditions of roadways, some being specially prepared to give the machine a stiff test. It is stated that the result was excellent, and apparently it will not be long before a much-needed revolution in street cleaning will be wrought about by the motor-vacuum system.

Canadian cities and towns are intensely interested in this question, as, owing to climatic conditions, the vacuum system of street-cleaning is particularly adapted to this country.

Canada, if she carries out the wheat-growing problem which has been recommended, will become the dominant factor in the grain market after this year's harvest. Will Greater Britain rally to the Motherland's assistance?—English Edition World's Work.

## Cultivation and Care of Corn

Attention Early, Late and Often  
Necessary for Successful Yield

Corn is one of the greatest of the fodder crops of this country. It can and should be grown more extensively on Canadian farms. If it is planted on a warm, well drained soil, a suitable variety chosen, and its habits and preferences catered to, it will give a good yield even in a district where the growing season is short. No agricultural plant will more readily respond to generous treatment in the way of thorough cultivation and care. The land should be worked well and a good seed bed prepared before planting, as no amount of cultivation after the corn is planted can make up for the poorly prepared field.

Successful growers begin to cultivate after planting, before the corn is up. Countless weeds will have germinated before the corn, and, unless these are destroyed while small, they will cause serious trouble. For this purpose the weeder is a splendid implement to use before the corn is up and until it is seven or eight inches high. If a weeder is not available, a light drag harrow may be used and will do effective work. Of course, a small amount of the corn will be destroyed, but the loss of the extra seed which should be sown to permit harrowing, is more than compensated for in the fewer weeds, in the conserved moisture and in aeration of the soil. The regular corn cultivator should be started just as soon as the rows are visible. The first cultivations should be deep and wide, and, as the corn roots develop, the cultivations should be more shallow.

Too many farmers stop cultivating too early, which is a great mistake. When the corn becomes too tall for the two-row cultivator, the one-horse cultivator may be used.

Corn requires an immense amount of water at all stages of its growth, and just when it is making its heaviest demands upon the soil many farmers stop cultivating, with the result that when rain comes it packs the soil, and if the ground is heavy it will bake and crack. After the corn has received its early thorough working, *Cultivate shallow, often and late*, is a motto that every farmer can safely follow.—F. C. N.

## Water Gardening

Most of the best inland fishing waters in Canada are being steadily "fished out." Planting fry produced in hatcheries is helping to prolong the life of these fisheries, but this only serves to postpone, not to prevent, the depletion of the fish supply. This does not mean that men will have to live without eating fish, any more than the virtual extinction of the wild hog meant that pork would be unobtainable. Instead, it will mean that many small lakes and otherwise waste land will be converted into "water gardens," where better fish, and more of them, will be produced.

Many farms throughout the country possess small streams, bordered by areas of wet, marshy land. Frequently these lands are of little value except as inferior pasture. Why should not the farmer turn such tracts to account by converting them into "water gardens" to supply fresh fish for himself and for his less fortunate neighbours? Much of the waste land can be made to produce excellent forage for fresh-water fish. A series of small ponds, separated by dykes would tend to prevent excessive waste of the forage and make it possible to produce larger quantities of better fish. In other words, by increasing the available food supply for fish it is possible and desirable to plant more fry, just the same as the farmer who grows most grain is able to produce more and better hogs.

It is essential also for farmers to acquire a knowledge of the life histories and food habits of fishes, in the same way that they have already done in the case of live stock. Such knowledge will make it possible to select varieties of fish, suitable for the conditions to be met with, to provide sufficient and proper food and to control the enemies of the fish.

Producing fresh fish on the farm is an "infant industry" deserving much attention. The increasing cost of living is making it more and more desirable that the open lakes, ponds and streams should be made to produce crops of fish. A few farmers have already undertaken it, and are demonstrating that intensive methods are as applicable to "water gardening" as they are to farm crops.—A. D.

### STEAM TRAWLING

The line fishermen of Annapolis, Digby and Yarmouth counties in Nova Scotia have recently been voicing their grievance against trawling as a method of fishing. The steam trawler represents the economy and efficiency of modern industry, but it has aroused inquiry regarding its effect upon the productivity of fishing grounds. Line fishermen demand the prohibition of trawling. They claim that it is destructive to the fish ova, and to feeding grounds, and that it means the capture and

waste of many immature and unmarketable fish. Through investigation alone will decide whether these charges are true or whether they are advanced merely to enable the line fisherman to avoid the competition which he cannot meet. The productivity of the North Sea banks, apparently undiminished by years of trawling, is a point in favour of the trawlers. On the other hand, the United States Bureau of Fisheries has become convinced that the conservation of the Atlantic fisheries depends upon the absolute prohibition of trawling, except for the taking of shell fish. A recent report to Congress proposes co-operative action for this purpose by France, Newfoundland, Canada and the United States.

Despite their commercial advantages, the operations of trawlers must be restricted, if they endanger the permanent value of the waters as a source of food. The question, however, presents a jurisdictional difficulty. Within the three-mile limit the various Governments may exercise their individual authority but beyond that line nothing can be accomplished except through international agreement.



Artificial fish pond on a farm near Lennoxville, Quebec—A profitable side line for the farmer

### FOREST FIRES

Forest fires are unnecessary, are nearly always the result of carelessness, and may wipe out in an hour what nature has taken hundreds of years to create.

They destroy existing forests.

They destroy the possibility of future forests.

They destroy a great market for labour.

They destroy the beauty of a region.

They destroy homes.

They destroy lives.

They destroy prosperity.

As an evidence of results which may be secured by the efforts of employees in safety work, the experience of the Intercolonial railway may be cited. On the Fourth district, extending from Sydney to Stellarton, in the six weeks after organizing, the safety committee succeeded in correcting 317 unsafe conditions and warning against 146 unsafe practices.

(Continued from page 17)

Class of road	Load for one horse	Cost per ton for hauling
Muddy earth road	800 lbs.	56.75 cents.
Smooth earth road	2,000	22.70
Gravel road in bad condition	1,500	28.40
Gravel road in good condition	3,000	15.12
Brick or concrete road	5,000	9.08

From this table it will readily be seen how much bad roads are costing the farmers of Canada.

The farmer served by poor roads is forced to market his crops, not when prices are highest, but when the roads are passable. Moreover, the high cost of haulage imposes a heavy additional handicap in competition.

Good roads not only enhance the value of land bordering on them, by rendering markets more accessible, but also benefit the markets themselves through extension of the radius of supply.

## Value of Fox Skins

War Conditions have Greatly Reduced Prices of More Expensive Furs

At the sale of fur skins held by Messrs. C. M. Lampson & Co., of 64 Queen street, E.C., London, in June last, the following prices were realized (assuming the pound sterling to be equivalent to \$5.00) for fox pelts.

Black	.....	\$350.00
Extra dark (i.e., nearly all black with a few silver hairs on the rump)	.....	500.00
Dark (i.e., black half way and silver half way)	.....	550.00
Silver (black neck, rest silver)	.....	375.00
Pale (fox all over)	.....	325.00
Silver skins of somewhat inferior quality realized:—		
Black	.....	\$240.00
Extra dark	.....	350.00
Dark	.....	400.00
Silver	.....	225.00
Pale	.....	200.00
Fox skins taken out of season and low in the fur realized:—		
Extra dark	.....	\$ 75.00
Dark	.....	125.00
Silver	.....	50.00
Pale	.....	35.00
Fox, cross, full furred:		
Good colours	.....	28.75
Pale	.....	17.50
Taken out of season and low in fur:		
Good colours	.....	12.50
Pale	.....	8.75
Taken out of season but very poor. (Approx.)	.....	5.00

A few special extra dark coloured skins, approaching silver fox, realized \$70.00.

Messrs. Lampson & Co. advise that it is exceedingly difficult to establish values of pelts without first seeing the skins, as these vary so much in colour, quality, condition and size, and it is upon these qualifications that the value of skins depends.

The above prices, it must be understood, were secured in June last. Owing to the war, however, values of all furs have declined considerably, especially the better class of furs, such as silver and cross fox.

Canadian railways are taking a constantly increasing interest in forest fire prevention along their lines. Both the Grand Trunk and the Canadian Pacific railways have provided public notices in smoking compartments, warning against the throwing of lighted matches, cigarettes and cigars from the train. The Canadian Pacific has printed fire warnings on the menu cards. The Canadian Pacific, Canadian Northern and Algoma Central railways print fire prevention matter in their advertising literature, particularly in the circulars intended for campers, tourists, etc. A large percentage of the fire loss is preventable, and there is a steady increasing realization of the fact that most of the loss can be avoided through the creation of an intelligent public sentiment along this line.—C. L.

### SAFETY ON I. C. RAILWAY

The Safety First Committee on the Government railway has issued a report of its work for its first year, which shows the following results: Unsafe conditions reported on, 2,007; unsafe practices discontinued, 889; number of employees killed, in 1913, 19; in 1914, 7; number of employees injured in 1913, 695; in 1914, 523.

It is results such as these which impress upon the employees the value of taking care. It is better to be safe than sorry.

Town planning is often begun at the wrong end, i. e., the Civic Centre—hence the frequent assumption that it relates solely to the æsthetic side of city life. The Civic Centre is the coping stone of the city structure, of which the foundation is the healthy home and the efficient workshop. The town plan should be built with due regard to the above order.

## Commission of Conservation

CANADA

SIR CLIFFORD SIFTON  
Chairman

JAMES WHITE

Assistant to Chairman and Deputy  
Head

CONSERVATION is published about 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.

The newspaper edition of CONSERVATION is printed on one side of the paper only, for convenience in clipping for reproduction.

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

OTTAWA, MAY, 1915

Many incomes may be augmented by cultivating the back yard. A penny saved is a penny earned.

Vegetables fresh from the garden are a luxury only appreciated by those who cultivate their own back yard or the vacant lot.

If farmers paid more attention to their seed and seed-bed in the spring they would have greater reason for celebrating Thanksgiving Day in the autumn.

Drive the fly from its entrenched positions by cleaning up and disinfecting its breeding places—the garbage can, the privy pit and the exposed manure pile.

During the warmer months, when heat-producing food is not so much required, fresh fish should form a much larger proportion of the diet of Canadian people.

Canada, depending so much upon her agricultural and forest products, should pay greater attention to the celebration of Arbour Day and to instruction in the objects which Arbour Day stands for.

The war will return to Canada many crippled and disabled men. Let the industries of Canada, by the exercise of wise precautionary measures, so reduce their toll of injured as to offset, as far as possible, the abnormal increase from war.

During the last four years the export of power from Canada to the United States<sup>e</sup> by three of the companies engaged in this business, has increased from 318,000,000 to 424,000,000 k.w.h. The amount of power supplied by the same three companies to be used in Canada actually shows a decrease for the same period.

"The North Side Ratepayers' Association were fully justified in calling the attention of the civic authorities to the public nuisance caused by the burning of manure at the exhibition grounds. The clouds of offensive and ill-smelling smoke from these fires is most disagreeable. The nuisance should be stopped, and at once."—*Regina Leader.*

It is almost incredible that such destruction of valuable fertilizer should be permitted in a city which has a committee at work to encourage the cultivation of the vacant lot, as a means of INCREASING PRODUCTION. The use of this manure as a fertilizing agent would go far toward attaining this very desirable result.

## Bird Sanctuaries

Important Preserves in the United States Will Canada do her Part?

Dr. John M. Clarke, of Albany, N. Y., Director of the State Museum, was one of the speakers at the sixth annual meeting of the Commission of Conservation. Dr. Clarke, referring to the protection of birds in the state of New York said: "It is very dangerous living in the country where I come from, because, if anybody, by any mischance, happens to hit a bird, he is liable to a fine of \$60, and if he hits two birds or more there is an extra \$25 for each bird that is by chance or intention injured."

Private funds are providing large sanctuaries in the United States for the birds. Among recent gifts may be mentioned that by the Rockefeller Foundation Fund of the Grand Chenier tract in Louisiana, comprising 85,000 acres, at an approximate cost of \$225,000; by Mrs. Russell Sage, of Marsh Island, costing \$150,000. These two tracts represent a district of 500 square miles, with a frontage on the Gulf of Mexico of 75 miles. Another large gift was that of Mr. David Wilson, of \$332,000, to the National Association of Audubon Societies, for bird protection. Bird lovers believe these gifts will mark one of the most important steps ever taken for the preservation of migratory birds, because they will stimulate and help to create interest in the establishment of preserves in other sections of the United States and Canada.

The new wild fowl preserve on the Gulf shore of Louisiana affords winter shelter for myriads of migratory songbirds, woodpeckers, and shore birds, all of which are of great service in Canada, when insects are busy in field, orchard and garden. Under the improved conditions for bird life, they will spread out from this sanctuary each spring over the United States and Canada. With Canada thus under such an obligation for the winter care of her migratory birds, it is not too much to hope and expect that she will not be behind in doing her full duty while the birds are with us.

## Fire Hazard from Railways

A study of the fire problem along the Canadian Pacific railway in Ontario was made during the summer of 1914 by the company's fire inspector. It was found that there were 282 fires in the timber district of Ontario, on or within five miles of the company's lines. Of these, 105 fires occurred on or immediately adjoining the right of way, while the balance had their origin on settlers' lands, on timber holdings which had been logged off, or along rivers from driving operations.

It was found that many fires occur in close proximity to railway lines, for the origin of which the company is in no way responsible. Also, the severity of fires is greatly increased by the large amounts of inflammable debris frequently found on adjoining lands, especially cut-over timber limits, where as a rule no attention is paid to the disposal of logging slash. No possible amount of right of way clearing can remedy this condition. In Maine, a law is under consideration, which would require either the leaving of a green strip of timber along railways, in connection with future cuttings, or else the disposal of inflammable debris on a strip adjacent to the right of way.

Settlers' clearing operations are one of the greatest sources of fire danger, on account of prevailing carelessness in the use of fire. It is argued that a permit system is needed in Ontario, for controlling the setting of fire during the summer season, as is now being done successfully in both Quebec and British Columbia.

On account of its accessibility young forest growth along railway lines has a greater prospective value than that remote from transportation, thus justifying adequate protection from fire by the Crown.

One material source of fire danger along railway lines is the use of the tracks as a highway, by pedestrians of all kinds, including tramps, unemployed labourers, settlers, etc. It has so far been found impossible to stop this, and many fires have been started by such agencies which would ordinarily be attributed to the railway.

In many forest sections, as for instance in northern Ontario, the danger of fire is very great, and local organizations are needed in order to cope with this hazard. Such organizations have been found very effective in some of the states of the Union.

Only some of the broader aspects of the fire situation have been touched as yet. Much still remains to be done before really adequate protection against forest fires will have been secured; however, the results obtained warrant the belief that the fire hazard can be considerably reduced, if intelligently handled. This, of course, must be assisted by a campaign of education

## Speculation and Soil Fertility

The farmer of Western Canada has long been upbraided for his disregard of the principles of scientific agriculture. The gospel of mixed farming, as the safeguard against soil exhaustion, has been constantly dinned into his ears but, as a rule, the advice has been consistently ignored and the farmer has adhered religiously to his system of soil mining. As a matter of fact, he has seldom denied that his farming methods are unscientific. What, then, is the explanation of the general and firm adherence to a mistaken course? The typical western farmer is neither lazy, unintelligent nor particularly shortsighted. Certainly, it is not that he is ignorant of the principles and practices of scientific agriculture, for the Canadian West has recruited its pioneers from the best farming communities of the British Isles, Ontario, the Maritime Provinces, Iowa, Illinois, Wisconsin, Kansas and Nebraska. His failure to follow proper methods of cultivation is due to none of these causes, except in a minor degree.

The main difficulty to-day consists in the fact that our western farmer, like his counterpart of a few decades ago in the western states, plays a dual role. He is a farmer and a land speculator, and it is often doubtful which characteristic predominates. Many homesteaders, of course, are farmers, purely and simply, but for thousands of others speculation is practically the sole motive. The representative westerner, however, combines the two occupations—agriculture and speculation—and, needless to say, as a speculator he is an indifferent farmer. The combination is not favourable to good farming and to the conservation of soil fertility. The average farmer, in anticipation of a rapid rise in land values, has burdened himself with as large an acreage as he could acquire. Having assumed heavy obligations, usually with little capital, he has faced high interest rates, a scarcity of labour and high cost of implements. He has been compelled, in order to hold his land for the promised advance in value, to resort to the system of cultivation that produces the maximum gross revenue with the minimum of outlay. The *bona fide* farmer has farmed with a view to insuring the permanent productivity of his land; the speculator, *par excellence*, has not farmed at all; the farming speculator or the speculating farmer has operated his agricultural plant at capacity speed with a view to selling it before the output diminishes appreciably. He has not been content to receive a normal profit from his farm. He has robbed the business as a going concern by encroaching on capital. Soil fertility is the capital asset which a wise agriculturist maintains unimpaired.

## About Colds

A cold is one of the most common ailments. Most people do not take ordinary precautions to guard against it. It is communicable, and readily passed from one person to another.

A cold, or "just a little sore throat," especially in children, should be taken seriously. Measles and whooping cough generally begin like head colds. Diphtheria and scarlet fever are often "just a little sore throat" at the beginning.

Colds are caused by germs, and when you develop a cold it means that you have become infected and the germs have begun to grow and develop in your nose and throat, producing poisons that are being absorbed into your body, making you feel at times miserable.

Some vigorous people who live an outdoor life and care for and strengthen their bodies with cool baths and exercise never seem to "catch cold," while others who take no exercise and keep hoarse in hot, close rooms, are very prone to attack on exposure.

Colds often act like other communicable diseases. Someone in the family "catches cold," and brings the germs home, and one after another the members of the household become infected.

To avoid this, watch for the first victim and keep the germs from spreading by making the person sneeze or cough in his or her handkerchief, as coughing without such protection is the most common way of spreading the germs. After the handkerchief is soiled it should be boiled from twenty to thirty minutes.

At this season of the year, with pleasant out-of-door weather at hand, we are all apt to neglect some precautions and catch cold.

No illness is more widespread or more neglected than these common colds, and, when neglected, consequences are often serious.

Colds are largely preventable.

That they are caused by germs is undoubtedly true, but we have these germs with us always. It is only when the system is weakened in its normal resistance that the germs succeed in breaking down the defences, and, entering the tissues, produce that acute inflammation of the throat and nasal passages known as a head cold.

Children frequently "take cold" at this season of the year by sitting upon the ground not yet free from the winter frosts. A cold may be contracted by going without the customary wraps or bareheaded, wetting the feet, violent muscular exertion without proper after-precautions, such as a cold shower and rub-down. Many of these little indiscretions in persons accustomed to indoor life may produce the head cold. And the tendency of every head cold is to extend downward, involving the larynx—"laryngitis," the bronchi—"bronchitis," and even the lungs—"pneumonia." A neglect,

## Importance of Farmers' Gardens

Fresh vegetables make up a very small part of the diet of many families on farms. It is impossible to estimate the value of the vegetables which may be grown in the home garden, but it is safe to say that a well-kept garden will yield a return many times as great as the return from an equal area devoted to general farm crops. There is great satisfaction in having an abundant supply of fresh vegetables, where they can be secured at short notice. Vegetables and fruits furnish a large part of the salts required by the human system, so that they are valuable medicinally as well as for food. If more succulent food were available, less money would be spent in doctors' fees and for medicines.

Fresh vegetables from the home garden are not subjected to exposure in marketing, are not liable to infection and are of a much better flavour than vegetables that have been gathered for some time. The home vegetable garden deserves greater attention from the average farmer.

Horse cultivation of the garden is recommended wherever possible, and, where the work is to be done by means of horse tools, the garden should be so arranged that the

rows will run lengthwise. It is often a good plan to grow vegetables for the table in the same field with corn or root crops. Two or three rows in this field, on the side close to the house, can be planted to tomatoes, radishes, cucumbers, cabbages, beans, peas, etc., and will supply fresh vegetables for the table during the growing season. They can be easily cultivated and kept clean when the corn and root crops are being attended to with the horse implements. One lady in Prince Edward Island, on one of the farms where illustration work was being done for the Commission of Conservation, who desired to go into the poultry business, moved the garden out to the field and had it attended to as above suggested. This plan worked so well that it has been continued and gives excellent satisfaction. There is no reason why the same thing can not be done on many farms; it will mean that a better and more abundant supply of vegetables will be obtained, and, also, that the woman's work on the farm will be considerably lightened. Every pound of food supplied from the garden means that there will be more of the other products of the farm for sale.—F. C. N.



Vegetable garden in foreground to be cultivated with horse implements along with field crop

ed cold often prepares the way for tuberculosis.

Colds are often contagious to healthy persons, since the germs which have succeeded in invading the tissues acquire increased virulence and are thus able to infect persons whose resistance is nearer normal.

Colds should not be neglected. If they refuse to respond to simple home methods of treatment a physician should be consulted.

Prevent colds by the exercise of care to avoid diminishing the body's resistance. Do not be in too great a hurry to change to lighter underwear or to abandon the overcoat or wrap. On the other hand, much may be done to toughen the body's resistance. Bathe the neck and chest each morning with cold water. Practise deep breathing. Keep out

of doors as much as possible. Let plenty of fresh air into the house. Leave the windows of sleeping rooms open at night. The more fresh air you pass through your lungs the better you will be able to resist disease.

Public conveyances, such as street and railway cars, especially when crowded, may be dangerous to health. Under such conditions one may breathe the filthy air which contains infectious matter that has been expelled from infected lungs and throats.

For the protection of others this rule should be observed: Do not spit except in proper receptacles. It is dangerous, indecent, unlawful, and spreads disease. Do not cough or sneeze without holding your handkerchief over your nose or mouth.—E.x.

## Shade Trees on Streets

Their Presence Greatly Enhances the Value of Property Adjoining

In order to determine the value of shade-trees on streets the advice of practical real estate men was sought by the Massachusetts Forestry Association. A large number of these men were asked this question: "How much, in your judgment, do full grown shade-trees along the street improve the value of the adjoining land for house-lots?" The majority of answers ranged from ten to fifty per cent, while some went so far as to state that a house-lot would be worth a hundred per cent more if full grown shade-trees were standing in front of it. A fair average of these answers falls between twenty-five and forty per cent. Expert tree appraisers say that in a large city, a shade-tree, in good condition and well placed, is worth one dollar per square inch of cross-section, measured at breast-height. At that rate, a tree one foot in diameter is worth \$113.00, while a tree two feet in diameter is worth \$452.00.

Now that we have seen the value of a shade-tree to the individual, let us find what it is worth to a town or city. As all things are of relative value, we must compare the shade-trees to some other form of property and in this instance take the material of the street itself. Most town and many city streets are made of macadam or broken stone. This paving can be built for about seventy-five cents per square yard. A street thirty feet between curbs, which is far above the average width, can be macadamized for \$2.50 per running foot, or \$62.50 for every twenty-five feet. With trees on both sides of the street spaced fifty feet apart, there would be one tree for every twenty-five feet. If the trees average thirteen inches in diameter they are worth just twice as much as the paving in the street. This is not theory, it is the judgment of practical business men, and yet how few ever think that the trees on a street are worth twice as much as the paving itself?—E.x.

## RAILWAY FIRE PROTECTION

The Canadian Northern Ontario railway is arranging to install an efficient fire protective system along its new line between North Bay and Port Arthur, in accordance with the requirements of the Railway Commission. There will be twenty-three special patrolmen with track velocipedes, and two head patrolmen with power speeders, covering portions of the line where the fire hazard is greatest. Where the situation will permit, the sectionmen and other regular employees will perform such patrol and fire fighting work as may be necessary.—C. L.