

## Canadian Specialist May Curb Mighty Mississippi Floods

Country Boy's Knowledge That "Willow Buried in Ground Will Sprout" Successfully Applied to the Prevention of Erosion

Toronto, Ont.—Battling with rampaging rivers that will not behave, and lake floods which lick up lands and crops, by the protection of lake shores, river, and highway banks, with the method of angular tree planting, based on the country boy's knowledge "that a piece of willow buried in the ground will sprout"—is the life's work of Oliver S. Scheifele, known as the "Willow King" of Waterloo, Ont.

He has recently returned from a three weeks' trip down the Mississippi River in the interest of the U.S. Federal and State governments, and hopes within two or three years to screen the mud banks of sections of that river with a willow thicket which will guide the channel in the way it should go.

This specialist in erosion and flood control has gained an international reputation for his process which he designed in 1922. During a recent interview by the Christian Science Monitor representative he stated that in the past few years he had inspected various sections of the Mississippi, Missouri and Illinois Rivers, to observe flood results on the hundred miles of earth levees along their banks. He observed that the growth does not exist between the river bank and levee, and action on these exposed sections of levees often causes a break. On the lower Mississippi in the New Orleans district, miles of expensive lumber walls have been built along the front of the levees to lessen wave action. The life of these timber walls is short.

"If the domestic, highland willow was planted on the forebank and on the river slope of these levees by the angular pole system, a permanent protection against wave and river scour would be applied," states the "Willow King."

**Good Results Obtainable**

"Some engineers are of the opinion that tree growth on levees has some bad effects," said Mr. Scheifele, "but if the right species of willow, the same variety that almost every farmer in the States of Iowa, Minnesota and the Dakotas has planted for shelter and wood supply were used, good results could be obtained."

Since 1922 Mr. Scheifele has done a vast amount of flood control work in both Canada and the United States. His successful battles against erosion in Canada included willow planting on the Galtwater River for the Dominion Government; on the Ottawa River for the Dominion Government and the municipality of Longueuil; St. Lawrence River protection for the Quebec Provincial Highways Department; river protection for the Ontario Highways Department; and canal bank work for the Ontario Hydro Electric Power Commission. In 1922 the Ontario Government made a grant of \$2,000 to Mr. Scheifele for work accomplished in that province.

"My process is simple," stated Mr. Scheifele, "The chief material used is the willow pole or log. Nature plants its trees to grow vertically, but I plant mine to grow horizontally. On the face of a bank we dig trenches deep enough to bury a log of six to 10 inches diameter, and 40 feet in length. This trench is dug at an angle of 45 degrees, and succeeding ones at a distance beyond it of four feet. We see to it that the butts

of the poles are placed in the river bottom, or beach at the toe of the inclined bank. This method enables the willow log to draw moisture from the soil near the river. In its determination to live, the willow loses no time in sending its rootlets down into the moist earth for food, which it stores against springtime, when it pushes the ingredients upward and outward in the form of luxuriant tree growth. I have frequently seen its roots go down 15 feet in a year, and even when planted on shifting sand, its tree growth frequently attains a height of three feet.

**Erosion Problems Solved**

"I have adapted the amazing life force of the willow to a large scale engineering process, by means of which a score of erosion problems in the United States and Canada have been solved."

Speaking of the cost of his process Mr. Scheifele mentioned results attained for the Ontario Department of Highways near St. Catharines. The spring flood of 1922 eroded the river bank to an extent of eleven feet and almost destroyed the roadbed approaching the bridge. An elaborate concrete wing dam was contemplated and finally this angular willow planting system was applied at the small cost of \$2 per lin. ft. of river.

"In 1926, as an experiment, the city of Buffalo awarded me a contract amounting to \$27,000," stated the "Willow King." "It was based at \$4 per lin. ft. of river bank. In 1927 I was again awarded a contract for \$25,000 at \$4 per lin. ft. This time I secured same by competitive bidding. Bids were also asked on stone riprapping. The lowest bid was \$19 per lin. ft. of bank."

**Capitalizing An Idea**

The Natural Process Engineering Company, of which Mr. Scheifele is head, like many other successful organizations, commenced on an idea which later was capitalized. One day on his father's farm at Conestogo, Ontario, young Scheifele watched an uncle and a cousin pact a defense of trees against the angry freshets of the Conestogo River. They first built earthen levees and then tried to make them immune to floods by planting willows upright in them. Their efforts were fairly successful, so Mr. Scheifele decided to improve on their experiments.

"It was only 20 then and possessed only \$200 capital," he said. "I increased my working capital by selling willows to farmers in western Ontario, to plant as windbreaks." Later an Ontario Government grant of \$5000 gave Mr. Scheifele the capital he needed for further experiments.

"The willow will reclaim a desolate piece of land," concluded the "Willow King." "After the willow has solidified the soil through the interlacing of its roots, the prideful pine and related trees can be successfully planted on reclaimed land. The willow grows at an astounding rate. As regards beauty, I claim that the willow is one of the most beautiful trees in existence. After you have listed all the ways in which it can be made to serve humanity, you will be ready to admit that the willow is also one of the most useful trees," concluded Mr. Scheifele. "From 'The Christian Science Monitor'."

## Steam-Cooled Engine Tested in British Plane

Condenser Smaller Than Radiator and Requires Less Water Than Older Type

London.—Cooling airplane engines by the use of steam has been successfully tried here in secret flying tests carried out under the direction of the British Air Ministry. In addition to the usual speed and climbing tests, the trials included an elaborate demonstration of aerial acrobatics, indicating that the system is being studied with an eye to incorporating it in military planes.

Water-cooled airplanes usually encounter criticism because of the weight of the water which must be carried and the vulnerability of the plumbing and the large radiator in air fighting.

After two years of research the system has been developed to its final design by the Fairey Aviation company. A steam-cooled engine, it is reported, needs much less water than the old type water-cooled engine. The condensers employed are smaller than the water radiator, and little damage would be done if the system should be pierced by a bullet. The pressure would result only in the escape of a thin wisp of steam. Similar damage to a water-cooled system would be followed by a rapid loss of water and the plane would soon be deprived of its motive power through heat seizure of the engine.

The interest which the British Air Ministry has shown in this development and other recent aircraft innovations indicates a new trend period. In a surprise raid the dreadnaughts were struck eight out of seventeen times by bombs launched from airplanes.

## Household Pests

Roaches will disappear if you make a paste of boracic acid powder and condensed milk then form into balls and place where these insects congregate. Water bugs will run away from kerosene so pour a small quantity down the drain pipe once or twice a week.

"Every advantage acquired in life has to be paid for in some way or other."—Count Keyserling.

## Echoes

Echoes of Summer reach my heart today, Like mystic music, borne from the far-away;

Elusive strains like wind o'er waving wheat, Bird voices vibrant in the summer heat,

Sweet spectral music from lays dead and dear, Thin, phantom strains that but the heart can hear.

Faintly the echoes come, then die away, For Summer is a dream of yesterday; No more she strays o'er field and hill and plain

Where Autumn flaunts her robes of crimson stain; In vain we seek for Summer's robes of light—

She's passed beyond the range of human sight; And only echoes reach the heart today—

Echoes of footsteps that have passed for aye.

—Helen B. Anderson.

## A PARADE OF COLORS

Glassware which uses a different color for every course is winning favor with many people.

"More complex and intense intellectual efforts mean a fuller and richer life."—Oliver Wendell Holmes.

## "ADAMSON'S ADVENTURES"



A Quick Disguise.

## Glycerine Helps

If rain water is not available for washing woollens, fannels and delicate lingerie, add a little glycerine to the water. This not only renders the water delightfully soft, but helps to eradicate dirt. A teaspoonful to each gallon of water will be sufficient.

When it is inconvenient to use the usual remedies for removing stains from materials, a little glycerine may often be used with advantage. Apply to the affected parts with a pad of soft cloth, allow to remain on the material for a few minutes, then wash in the usual way.

If a little glycerine is added to fruit while boiling, considerably less sugar will be required. It also helps to prevent the formation of scum. A tablespoonful of glycerine to every three pounds of fruit is the right proportion.

Try a little glycerine for freshening the cover of a black umbrella that has become slightly faded. Extend the cover and apply to the outside of the material with a pad of soft cloth.

"Experience and its memories are better than philosophy."—Dr. Will Durant.

"As causes for wars or insurances of peace, politics and statecraft are far less important than economics."—Edward A. France.

## Wisdom in Wit

Fast friends are always slow to disagree. Many a man develops into a liar by writing love letters.

The girl who looks good isn't necessarily good-looking. A confession of weakness is the beginning of strength.

You can't convince an editor that "no news is good news." No man has the nerve to tell a woman what the mirror tells her.

Nothing pleases a woman more than to be misunderstood by man. The really big man is measured by what he does and not by what he says.

Family quarrels wouldn't be so bad if other families kept out of them. Most people have good memories—except about the favors you have done them.

The only time the modern girl tries to be an angel is when she is driving a car. The surest way to happiness is to get so busy that you have no time to be miserable.

Henry may be trumps in the game of love, but it helps some people to flash a diamond occasionally. She: "Have you a poor memory for faces?" He: "Yes—poor faces."

## New Competition Facing Railways

Airplane Becoming Real Competitor of Railroad Systems

Atlantic City.—A marked increase in train speeds with added attention to the comfort and convenience of passengers' accommodation will be the answer of the railroads to competition of automobiles and airplanes.

This impending development, details of which are already being planned by rail systems of this continent, along with the important part played by Canadian and United States transportation companies in supporting the social and moral structure of the two countries, was emphasized here recently by Sir Henry Thornton, chairman and president of the Canadian National Railways, in his address before the seventy-fifth annual dinner of the American Association of Passenger Traffic Officers.

"A new competitor is challenging the railroads," said Sir Henry to his international audience of traffic leaders, in reference to the airplane. "We will have to meet that by increased speed and with the safety facilities at our disposal. The time of land travel between London and Paris already compares measurably with that by air. At the same time we are confronted with the necessity of making travel by rail more agreeable and comfortable by attention to proper heating and cooling, and progress along this line is rapidly being made."

**Train Requirements**

"Train travellers should have facilities reasonably equivalent to those provided by ocean liners when undertaking a journey across the continent," declared Sir Henry.

Shower baths, moving pictures, gymnasiums, are among the requirements of this sort now being supplied by some transcontinental trains.

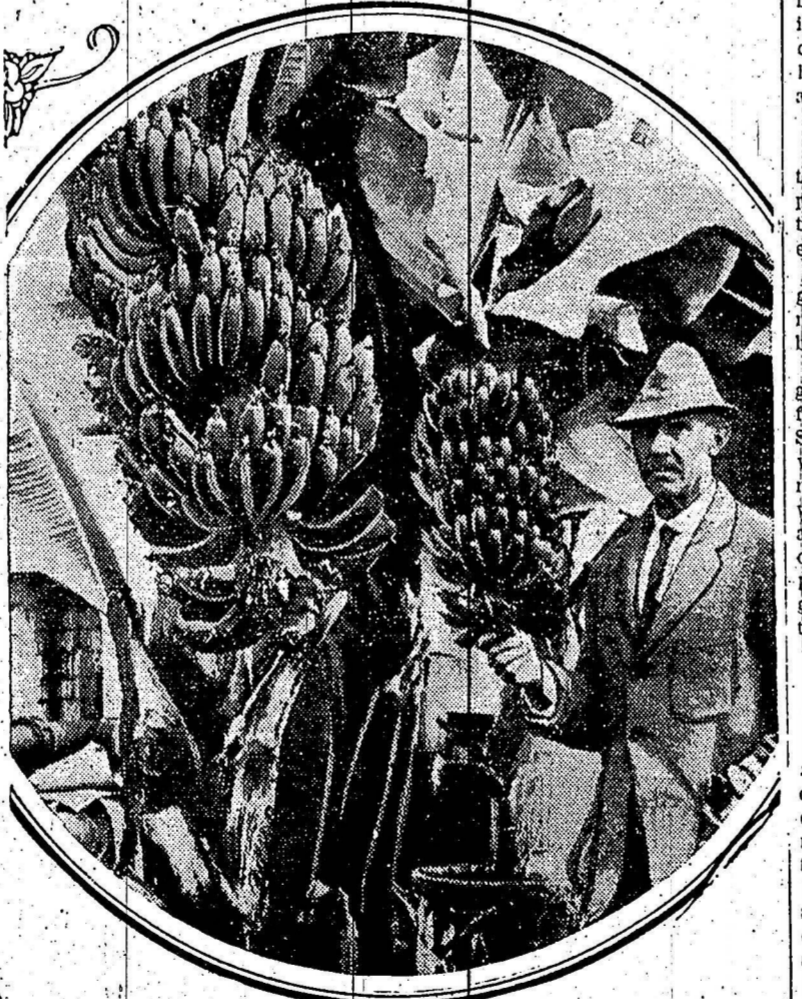
Dealing with the function of the great railroad organization as a force for law, order and social well-being, Sir Henry pointed out that "by good will, sympathy, recognition of economic principle, by a desire to serve, we, in the transportation industry, are making notable contributions to our respective countries. By compliance with the rules of our own groups, we encourage obedience to the laws of our countries."

**Care of Plants**

After weeks of hot and humid weather, potted ivy begins to show drying leaves and looks wilted, a condition that a thorough soaking does not always relieve. This means that the ivy needs fertilizer or plant food. Repot with as much fresh earth around the roots as is possible without shocking the plant, and add a suitable amount of one of the good plant foods on the market. Better to fertilize plants once a month than to give them an over-lose.

A sure proof of soil deficiency in the window is the allowed drooping leaves of ferns, geraniums, or whatever plants are used.

## Bananas in Foggy England



Bananas of excellent quality have been successfully grown in England by Henry Spencer of Iren Hill, Woking, Essex. He has experimented for four years and has found a soil which he believes ideal. Mr. Spencer is shown with some of his specimens.

## Fear Beginning, Not the End Of Cancer, Specialist Warns

Cancer Can Be Cured If Taken in Time—Ontario's New Health Minister Tells of Government's Plans

Note.—This is the first of a series of weekly articles on HEALTH which are being written exclusively for your paper by the Canadian Social Hygiene Council. Watch for future articles, and let the editor know how you like them.

The recent announcement that the Ontario Government plans to spend much money combating the growing menace of cancer brings this fearful and interesting disease more sharply to the attention of Ontarians.

What is cancer? Can it be prevented? Can it be cured? Just what will the plans of the Ontario Government mean to the average Ontarian, urban or rural? How does the new minister of Health, Dr. Robb, interpret these plans insofar as their importance to the average citizen is concerned? To answer the last question first, Dr. Robb was interviewed.

"It is the hope and ambition of the Government," the new minister stated, "to come to the aid of those people who are not financially able to take advantage of the radiological treatment for cancer, and who need it. We should like to see the day when every Ontario resident so unfortunately situated will be so cared for."

Now doctors do not entirely know what cancer really is, any more than electrical engineers know what electricity is. But just as the engineers can do great things with that mysterious force, so doctors can do great things in combating this mysterious disease.

They know, for example, that chronic irritation can produce it. Wherever two dissimilar substances meet the human body, as for example, the hard teeth and the soft mouth-tissues, cancer is a very possible result. Modern dentistry, by making razged teeth smooth, and teaching us to keep our teeth clean so that irritating substances do not collect upon their surfaces, has done much to cut down mouth cancer.

"When a certain spot on your body becomes cancerous," the doctor explains, "the cancer cells, by wandering in this area, and by wandering of irritating the surrounding tissues, are carried throughout the body. And like a host of ravaging robbers, they are able to grow and destroy wherever they go."

We have seen that one type of cancer—cancer of the mouth—may frequently be prevented by prevention of irritation and uncleanliness. Another

## System of Roads To Check Pathans To Race in Air

Proposal to Build Modern Highways Through Wild Indian Territory

Simla, India.—Construction of an extensive system of modern roads through the wild and mountainous territory in the northwest frontier province, in order to permit speedy penetration when necessary of territory belonging to the fierce Afridi tribesmen, was forehanded in an official communique issued here recently.

The communique states that there are still leaders among the Afridis who are attempting to foment trouble with British authorities, and that the present situation cannot be considered normal despite absence recently of reports of serious engagements.

Construction of one of more fortified posts to defend the new highways is also considered desirable.

The whole scheme was to have been discussed by the chief commissioner of the district with the Afridis, but the communique says that though summoned to a meeting they failed to respond.



"This thing has got to stop. You keep me putting my hand in my pocket all the time." "All right, papa, I'll have the rest of my purchases charged."

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—Thomas Fuller.

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## MUTT AND JEFF—By BUD FISHER



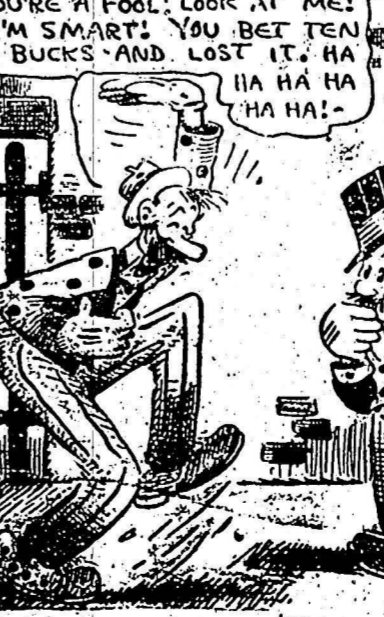
## In Plain Words—Mutt Lost Nothing.



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