

## Co-operative Soldier Settlements in B.C.

Experiment Initiated by Veterans Themselves Makes Promising Progress

Three hundred officers and men returning for demobilization on the Empress of Asia evolved a scheme for co-operative settlement on the lands of British Columbia. They elaborated their scheme and presented it to the authorities. For a time they received little encouragement but eventually they found sympathy and encouragement from the Government of British Columbia. The Dominion authorities agreed to endorse the project and now four soldier settlements in the province of British Columbia are in course of development by soldier labour.

In the development of the estates, returned soldiers only are employed. Thus the problem of their employment is settled at once. When the lands are cleared and ready for occupation they will be sold to the soldiers, who will receive a \$500 rebate on the purchase price. The Land Settlement Board has provided the lands.

Camp stores have been established by the Board and the profits of the stores are to be divided among the soldier settlers. When development has sufficiently proceeded, the stores will be taken by the settlers and run on co-operative principles.

Among the friends of the soldiers in British Columbia the movement is arousing the greatest interest. To the soldiers themselves it has all the fascination of creation. They have found what William James called "The moral equivalent of war." There is something to overcome—the sternness and strength of nature—something to civilize and, for their inspiration, as in the days of war, are the strong human affections—love of wives and children and comrades. They are delighted to work together and congratulate themselves that they have escaped the isolation of the old-time settler.—A.B.

### Imitating Nature in Hatching Salmon

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In a paper before the American Fisheries Society, Mr. Robertson expressed the belief that when fry are thus hatched in gravel the loss from fungus is negligible, and the removal of infertile eggs unnecessary.

It is important to note that this method cannot be used with hardened eggs, as placing them in the gravel would destroy them. It is essential to pack the box in such a manner as to prevent all movement of the eggs due to the flow of the water.

In 1915, Mr. Robertson had one container in operation, as an experiment. Encouraged by favourable results, 70 boxes were put into use in 1916 and 90 in 1917. Their combined capacity is over 2,000,000 eggs. All hatched successfully except those in two boxes, which had been constructed of faulty material.

## Wise Household Clean the Chimneys

Severe Penalties are Provided for Causing Fires through Negligence

Cooler weather demands the lighting of heaters and furnaces. Before this is done, however, chimneys, flues and stove-pipes should be thoroughly cleaned out and made safe. This is not a difficult matter, and is much preferable to being turned out of the house on a cold night by a fire caused by dirty pipes or chimneys.

Some surprise might be caused to the owner of a building damaged by fire from such a cause if the insurance company declined to pay the loss. This the company has a perfect right to do, as it is distinct, if stated on all fire insurance policies that the company is not responsible for fires caused by negligence on the part of the assured.

The "Act to Amend the Criminal Code Respecting Prevention of Fire," passed at the last session of Parliament, distinctly states:

"Every one is guilty of an indictable offence and liable to two years' imprisonment who by negligence causes any fire which occasions loss of life, or loss of property."

With the possible loss of insurance and two years' imprisonment as a penalty, it is not wise for the householder to neglect his stove-pipes and chimneys.—J.D.

## Use of Chemicals to Improve Combustion

Oxygen of the Air and Attention to Firing give better Results

The Fuels and Fuel Testing Division of the Department of Mines has recently issued a pamphlet on "Economic Use of Coal for Steam-Raising and House-Heating," by John Bizard, B.Sc., in which the following remarks are made on the use of chemicals to improve combustion:

"Compounds appear on the market from time to time, under various names, which are supposed to cause the coal to give out more heat. The sellers of some of these articles recommend that they be sprinkled in small quantities, about one pound to a ton, on the coal before firing, or on the ashes after their removal and before returning them to the furnace. Since coal burnt completely in air gives out all the heat it contains, and since it is impossible to burn the ash in the coal, these articles can neither increase the heat energy in the coal nor endow ash with heat energy. If these compounds contained a large percentage of oxygen, the amount would not be sufficient for the combustion of half their weight of good coal. Would-be purchasers are strongly advised not to listen to the extravagant claims made by agents for their sale, and to devote their attention to the scientific combustion of their coal with the oxygen of the air, which may be easily obtained free of cost."

If the experiments now under way in both Canada and the United States should prove successful, and the cost not be prohibitive, a large development is to be anticipated in connection with the protection of forest lands by means of aircraft.

## Coal Conservation in Great Britain

Technical Research in England Promotes Economic Use of Inferior Coal

The benefits of technical research are being once more illustrated in England, where a committee appointed by the Institute of Petroleum Technologists has been investigating methods for the economical use of bituminous coals, slack, colliery waste, etc., more particularly with reference to the production of by-products and the generation of power. The technical advisers of the committee have carefully studied various types of retorts and producers, the supply of retortable material, the output of the collieries, the possibility of using seams now unworked, the market for products, etc., and have assembled an immense amount of valuable data.

A company has now been formed with a capital of \$500,000, to produce oil from bituminous coal, to prepare fuel—e.g., gas, coke, and briquettes—for domestic and industrial purposes, and to extract various by-products in the process of manufacture. These will probably include ammonium sulphate or crude ammonia, and coal tar with its derivatives, which are so important in the manufacture of aniline dyes and numerous drugs and explosives.

A site for an experimental research station has been acquired in the centre of the Midland coalfield, with good railway connections and adjacent to three shafts which are now bringing up a true cannel, an inferior cannel, and a soft caking coal. It is not only intended to test material for the particular company concerned, but to co-operate with colliery owners in any part of the world in promoting more efficient utilization of coal resources. The company is receiving no Government assistance, nor is it in any way interested in any particular type of retort or process.

## Timber Scarcity in U.S. and in Canada

Need of Lumber and Pulpwood in U.S., makes Increasing Demands for Canadian Supplies

The progressive diminution of timber supplies in the United States is reflected in the constantly increasing demands for the importation of forest products from Canada. For example, the United States in 1918 imported a total of 1,370,027 cords of pulpwood, valued at \$13,362,566. Practically all of this came from Canada, and represents an increase of 47 per cent over the number of cords imported in 1910, and an increase of 119 per cent in the value of the material. The importations of wood-pulp, from Canada and other countries, have also been very heavy, aggregating in 1918, some 516,258 tons, valued at \$31,477,175.

Chief Forester Graves, of the United States Forest Service, im-

pressed the seriousness of the approaching timber shortage, particularly in the eastern and southern states, has issued an appeal for the adoption of an adequate national forestry policy, involving drastic action by the Federal Government and by the several states. The need for action with reference to privately-owned timber lands is particularly emphasized.

Exhaustion of local forest supplies, the closing industries dependent on them, the embarrassment for supplies of the pulp mills and other consumers using special classes of forest products, the generally mounting prices to consumers, such as factors which are calling sharp attention to the effect of forest destruction, and are causing increasing public uneasiness.

Forest depletion is injurious long before the last tree is out, and long before all but the last centre of production is exhausted.

Leaders of the southern pine manufacturers state that the bulk of the original supplies of yellow pine in the South will be exhausted in 10 years and that in the next 5 to 7 years more than 3,000 manufacturing plants will go out of existence.

Hundreds of communities are suffering, because the resources supporting their chief industry has been exhausted. Sawmills and woodworking establishments close, subsidiary interests can no longer exist, the population moves away, the schools are abandoned, and other public improvements deteriorate, and whole townships and even counties are impoverished.

Few individuals may have realized handsomely from the speculative enterprise. The community has been gutted of its principal capital.

This is an occasional occurrence. It is the history of millions of acres of land unproductive and now an economic desert.

We have been discussing these problems for many years, but we have made little progress in securing the right handling of private lands.

I urge that those interested in the forest problem take action, without some definite and conclusive action.

### Perpetuating the Supply of Pulpwood

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Each of these problems has a vital bearing on reforestation, and only the lack of trained workers, coupled with man's faith in his unproved assumptions, prevented the study of them a generation ago.

The studies are now being conducted under joint governmental and private auspices. Some of the larger pulp companies have entered into a co-operative arrangement with the Commission of Conservation to carry on such studies on their limits, which have been cut over at various periods, some of them three or four times. The investigation, which is under the general supervision of Dr. C. D. Howe, Acting Dean of the Faculty of Forestry of the University of Toronto, will require several years to complete. A start was made three years ago on the limits of the Laurentide Company.

Two years ago work was also commenced on the limits of the Riordon Company, and this year on the limits of the Abitibi Power and Paper Company. Such research is well worthy of a more general application and will doubtless prove to be a factor of no small importance in perpetuating and possibly extending the great pulpwood forests of Central Canada.—A.D.