

The chief drawback to the use of the three phase transformer is in the case of breakdown, and then its disadvantages are more imaginary than real, and with a proper station layout may effectually be overcome. It has, however, a number of real positive advantages over the single phase transformer, which is bringing it into use more and more every day for power transmission work, at least.

PORTLAND CEMENT IN QUEBEC.

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Hull, began producing, and since then the figures have grown year by year as may be seen by the following table:

Year.	Quantity (barrels).	Value.
1904.....	33,500	\$ 50,250
1905.....	254,833	408,000
1906.....	406,103	625,570
1907.....	640,000
1908.....	801,695	1,127,335
1909.....	1,011,194	1,314,551

WESTERN CANADA IRRIGATION CONVENTION.

The Western Canada Irrigation Convention opened at Kamloops, B.C., August 4th.

The first day was devoted to resolutions.

The Provincial Government is to be urged to amend the Water Act so as to permit the separation of the water from the lands for which records are granted in order that such water may be amalgamated as part of an irrigation project.

Another resolution asks the Provincial and Dominion Governments to co-operate for the speedy and equitable settlement of all claims for water within the railway belt in British Columbia. The Dominion and Provincial Governments are to be urged to speedily select and reserve water storage sites on Crown lands and acquire such other privately owned sites as may be required for irrigation purposes.

The Provincial and Dominion Governments will also be required to take the steps necessary to enable a water license to enter upon, use and occupy land within Indian reserves when such right is desired in connection with the construction of irrigation reserves. Another resolution asks the directors of the meteorologist service to supply a sufficient number of observers with rain gauges to insure an accurate record of the rainfall in each district of Alberta and British Columbia being obtained.

A compromise between the advocates of Government ownership as applied to irrigation systems and those opposed to what was termed paternalism, the following resolution was prepared and adopted late last night at the convention of the Western Canada Irrigation Association:

"Whereas certain existing conditions of ownership and control of irrigation systems in British Columbia are far from satisfactory in some portions of the country, resulting frequently in waste of water and inadequate distribution;

"And whereas certain districts have not the necessary capital to install irrigation systems, thus leaving large areas of good land useless because of insufficient water supply;

"Be it, therefore, resolved by this convention that the Government of British Columbia be asked to take steps toward securing the better conservation and control of the sources of supply in those districts in which governmental action would clearly make for a fuller supply of water and its more equitable distribution;

"And, further, that the Government be asked to assist by guaranteeing the bonds of municipalities or companies in those districts where otherwise large tracts of land must remain unproductive for lack of adequate irrigation systems."

Calgary was chosen as the place of meeting for 1911.

The following officers were elected: Hon. President, Lieut. Bulyea, of Alberta; President, Wm. Pierce, Calgary; First Vice-President, F. J. Bulton, Kamloops; Second Vice-President, Mayor Jamieson, Calgary; Treasurer, C. W. Roulay, Calgary. Executive Committee, C. W. Peterson and W. H. Fairfield, Lethbridge; C. A. Magrath and Horace Grennly, Maple Creek; Dr. Dickson, Kelowna; A. H. Aker, Summerlands; R. M. Palmer, Fruitlands.

IRRIGATION IN THE OKANAGAN AND THOMPSON VALLEYS, BRITISH COLUMBIA.*

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On the Nile, in India, in Mexico, and in the Western States of the Union are works built of enduring masonry, the highest examples of engineering skill, for the same purpose as the crude ditch and flume of the early settler in the interior of British Columbia: the difference is in degree, not in kind. There is no sight so arresting as the contrast afforded by the vivid green of a field of alfalfa surrounded by the desolate-looking sage and cactus characteristic of the "dry belt" of this province.

Description

The district embraced in the valleys of the Okanagan and Thompson with their tributaries contains 500,000 acres of lands that with irrigation will produce fruit and other crops which are as much more valuable than wheat as wheat is more valuable than native grasses. It is no exaggeration to say that 10 acres of good irrigated fruit land is equal in producing value to 160 acres of the best wheat land in the North-West. These valleys are capable of supporting in comfort and even luxury 50,000 families or a quarter of a million souls, who would be living in ideal conditions, under a perfect climate, with facilities of intercommunication, graded schools, clubhouses, lecture rooms, etc., etc.. In short, all the material advantages of the city added to the immeasurably greater advantages of the country life. I make the assertion without fear of contradiction, that a population so settled are a greater asset to a nation than twice their number congested in a large city.

Development

A respectable beginning has been made in reclaiming and settling this vast area, some 100,000 acres being covered by the various systems already constructed or in course of construction. So far this has been done by private enterprise. The Provincial Government, alive to the importance of the development taking place, has, by revising water legislation, reserving the watersheds, protecting the forests from destruction by fire, instituting a Hydrographic Survey for the purpose of making an inventory of our resources in water supply storage basins, etc., has done much. The question of how far a government should go in this direction and how much of the development of the country should be left to private enterprise is not up for discussion in this paper. A very important and far-reaching step has been taken by the municipality of Summerland in acquiring and administering the irrigation system for all the land within its boundaries. The municipality of Penticton is about to follow suit and the working out of the problems of distribution, maintenance, renewals and extensions of the system will be watched with keen interest by other sections of the province.

Irrigation Districts

In the writer's opinion the ultimate solution will be found in the creation of "irrigation districts," after the model

* Paper read before the Irrigation Convention, Kamloops, B.C., August, 1910.