

CANNOT STOP, SAYS SHAUGHNESSY

New Stock Issue Was a Help—Future Construction Expenditures Will Be Modified

"The issue of additional capital stock early in the year, while it bore rather severely on shareholders, who had to find money to meet their calls during the period of stringency that prevailed in Europe and elsewhere, was of great advantage, because it enabled the company to proceed with important works essential to the future welfare of the property, and it was a distinct boon to the country, providing as it did wages for thousands who would otherwise have been unemployed, and furnishing circulation in a large way when it was most useful," remarked Sir Thomas Shaughnessy in his address at the annual meeting of the Canadian Pacific Railway.

"The constant demand for additional railway mileage, the recurring necessity for providing second tracks, larger stations shops, yards and more cars and locomotives, to cope with the enormous traffic, involve expenditures that are almost startling but we cannot afford to stop. In ten years the annual gross income has grown from \$43,000,000 to \$139,000,000, and if Canada is to meet our expectations in point of population and prosperity, as beyond doubt it will, there should be a proportionate increase during the next ten years, provided that we have the roadbed, equipment and facilities to handle the traffic as against all comers.

Will be Ahead of Requirements.

"This does not mean that the expenditures for these purposes during the next few years need be anything approaching those of the past, because, when the lines now being built are completed, our construction programme may be substantially modified, and, with the exception of important improvements at one or two points in Eastern Canada, where congestion during the busy season is annoying as well as expensive, and the completion of a second track on portions of the main line, we will, by the end of this season, be well ahead of our requirements.

Represent No Capital Liability.

"This year the company's bond, debenture and share capital, including the recent issue of \$60,000,000, is \$283,000,000 more than it was in 1903. Of this, the amount of \$124,000,000 was expended in the construction and acquisition of additional mileage and the purchase of ocean, lake and river steamers; and the additions to the car and locomotive equipment absorbed \$101,000,000. The balance of \$58,000,000 was used for the general improvement of the property, but this amount was supplemented by premiums on stock issues and appropriations from surplus earnings to the amount of \$105,000,000, nearly all of which will have been expended by the end of the current year, so that those interested will have invested in the property in those ten or eleven years this large sum of \$105,000,000 that will represent no capital liability, and will consequently make no draft upon the revenue."

NEW METHOD OF EXTRACTING CONTENTS OF WOOD-WASTE

An English company has recently commenced the commercially successful production of acetone and fusel oil from sawdust by a simple process of fermentation. From these two products isoprene can be derived, which latter can be changed into rubber, merely by allowing it to lie in contact with a small quantity of the metal sodium. This synthetic rubber vulcanizes readily and compares favorably with the natural product in resilience, durability and price.

Acetone is used in the manufacture of cordite, and fusel oil is used in the manufacture of artificial leather cloth. Previously it was chiefly obtained as a by-product in the manufacture of whiskey, brandy and vodka, but by this new process it can now be extracted much more cheaply, making possible a large profit. It is calculated that these by-products of sawdust are worth almost \$400 a ton. As it takes only ten tons of sawdust to yield a ton of these valuable constituents, the resultant profit is obvious.

In Europe, with its densely populated regions contiguous to the forests, the elimination of wood-waste is an economic essentiality, and hence methods have been evolved which, in some cases, utilize even the leaves and roots of trees. While this is not essential in America at present, it is desirable to reduce the waste which takes place in the different processes of transforming the standing timber into finished product, which amounts to something like fifty per cent. of the total volume of the tree. To this end, the Canadian Government is establishing a fully equipped wood products laboratory at McGill University in charge of Mr. A. G. McIntyre, B.A., B.Sc., under whose direction experiments will be conducted to discover new uses for common Canadian trees and for the enormous quantities of sawdust and other forms of waste wood which now represent a money loss to the country of millions of dollars annually.

OIL AND GAS PROSPECTS

Report on Western Canada Conditions—Much Work to Be Done Yet

Oil and gas prospects of Canada's western provinces are treated by Mr. Wyatt Malcolm in a memoir of the Department of Mines, Ottawa. Mr. Wyatt summarizes his investigation as follows:—

The plains of western Canada are underlain by a great body of sediments, nearly horizontal in attitude, and resting on a Pre-Cambrian base. The eastern contact between the Pre-Cambrian rocks and the later formations runs in a generally northwest direction from Lake Manitoba past Athabaska, Great Slave, and Great Bear Lakes. In the eastern part of the plains a great unconformity exists between the Palaeozoic systems, consisting of limestones, dolomites, and shales, and the Cretaceous system, consisting of shales and sandstones, so that we find the Dakota sandstones of the Cretaceous system resting directly upon limestones of the Devonian system. The Palaeozoic strata are exposed by faulting in the Rocky Mountains, and much of the later sediments has been eroded, only traces of the lower members being left. In the west, deposition during Carboniferous, Triassic, and Jurassic times has to a great extent bridged over the unconformity seen in the east, and the geological column includes formations found in nearly all the great systems, from the Cambrian to the Recent. In western Alberta and in some parts of south Saskatchewan the Cretaceous sediments are overlain by Tertiary deposits. Overlying all is a mantle of unconsolidated Pleistocene and Recent deposits.

Little Testing Done.

Little has been done yet to test the gas and oil possibilities of the district. A few wells have been sunk, and in a number of these gas in commercial quantities has been struck. Prospecting for oil has been less successful.

Prospecting for oil has been carried on in two different areas in the Pincher Creek district, southwestern Alberta, one on the south branch of the south fork of Oldman River, and the other on Oil Creek, which flows into Waterton Lake. This has apparently resulted in no great measure of success. In northern Alberta the Dakota sandstone, where exposed along the Athabaska and its tributaries, is impregnated with a bituminous substance believed to be a petroleum product, and it is thought that liquid petroleum exists in this porous rock at some distance from the outcrop. To test the validity of this belief, wells were drilled during the nineties by the Dominion Government at Victoria, on the Saskatchewan, at Athabaska Landing, and at the mouth of Pelican River. In the first two wells the Dakota sandstone was not reached, while in the last it was reached at a depth of 750 feet, penetrated about 87 feet, and found to carry maltha or heavy tarry petroleum.

Prospecting for Gas.

Prospecting for gas has been much more encouraging. The boring at the mouth of Pelican River, although disappointing so far as oil is concerned, proved the presence of a great reservoir of gas in the Dakota sandstones, and heavy flows were struck at 820 and 837 feet. In southern Alberta, also, gas is found in paying quantities. A good field exists at Medicine Hat, and flows have been obtained at several different points west of that city. At Bow Island a flow of several million feet is obtained.

Thus, while the presence of oil in commercial quantities remains to be proved, boring operations have demonstrated beyond a doubt the existence of large reservoirs of natural gas, and it seems probable that further exploratory work throughout the wide area underlain by the Cretaceous rocks should lead to the discovery of other reservoirs.

It is believed that the Devonian limestone is the source of the gas and petroleum products of northern Alberta, while the porous Dakota sandstone forms the reservoir into which they have risen and in which they have been obtained by the overlying shales. The Dakota sandstone is the productive formation at the mouth of Pelican River, and it is also believed to be the gas-bearing formation at Bow Island, in southern Alberta. As the Devonian limestone and Dakota sandstone are of wide distribution, and probably underlie the western part of Manitoba and a great part of Saskatchewan and Alberta, the prospects for the discovery of other gas fields seem favorable. On account of the great thickness of sediments overlying these formations, the driller, however, must be prepared to go to a considerable depth.

Canada will be represented with the United States in an endeavor to obtain uniform laws pertaining to road building, if the proposal meets the approval of Premier Borden, according to an announcement made at the American Road Congress at Detroit by Mr. A. W. Campbell, deputy minister of railways and canals for the Canadian Government.