

must if you are familiar with the Bounty Act passed by the Provincial Government grant a bonus of \$3 a ton on pig iron produced in the province from local ores. This so far has not given the results hoped for. Our action was followed up by an investigation of the possibility of the development of our iron ores by electric smelting, and Dr. Alfred Stansfield, an authority, was commissioned to come to the province and report. This he has done, and his report indicates that our magnetites can be so treated, but that the cost of power stands in the way of making the enterprise a commercial success. Recently an electric-smelter expert came to the Government and stated that he had an improved method by which it would be possible to treat our ores more economically. As the Government is much interested in this possibility a small grant was made in order that this method might be demonstrated and the results of the experiments will be known at an early date.

Government Aid in Construction of Roads and Trails.

When taking the office of Minister of Mines one of my first actions was to introduce the Mineral Survey & Development Act, dividing the Province into six mineral survey districts, each of which districts was placed in charge of a competent engineer. The duties of these engineers were to aid the prospector and the operators in every way, and I believe the policy has proved satisfactory. Among their responsibilities is the examination of such properties or prospects as require trails, or roads, to facilitate development. If the reports of our engineers indicate that the properties have merit and should be encouraged the Government authorizes an appropriation to aid in the furnishing of means of transportation. In this work we have spent \$207,535 in a little over two years, built 98 miles of mining roads, overhauled 437 miles of mining roads, built 75 miles of trails, and overhauled 420 miles of trails. The only complaint I have received, as a matter of fact, is that the engineers have been unable to cover their districts thoroughly enough and this refers particularly to the district in which are the East and West Kootenays. So marked is this that I have come to the conclusion that your district engineer, Mr. A. G. Langley, must either have expert assistance or that the district will have to be divided into two. (Applause.)

The outlook everywhere in a mining sense is bright. As I have said, Capital is looking to British Columbia for investment. This is strikingly shown by the number of properties which have changed hands in the Kootenays, as well as the dealing which has been going on at Coast points. The industry generally appears to be in a very healthy condition. It remains for those directly interested to pursue their work energetically and along legitimate lines. The country possesses the natural wealth. It is the duty of the people to develop it in such a way as to contribute to the commerce and industry of the Northwest. If this policy is followed the confidence of those looking for profitable mediums of investment will be maintained and there will be no difficulty in obtaining capital.

Increase in Value of Mineral Output of Province.

Last year, when the mining industry did not flourish as it had done generally, British Columbia's mineral output in value was \$41,083,093, an increase over 1917 of \$4,072,701, or 11 per cent. This is particularly gratifying when it is remembered that decreases were reported from the States of Utah, Nevada, Idaho, Colorado and California. It was not the time, however, to look back upon the past. Mining men should look

forward. Not only is metal mining in the happy position of an assured future, but the gold producing districts of the Province having been mentioned, I want to say that it is significant that there have been of late many applications at the Department of Mines for placer dredging leases. There is no doubt that there is to be revival of this form of mining on the placer grounds of the Cariboo and other northern sections of the Province.

Mining Flotations Must Be Legitimate.

But it is essential that we as mining men should beware of the "wild catter." Under the Mineral & Survey Act I have authority to check such propositions as may seem, on investigation, to be of such a character. I may say that there is no objection to a company with a prospect issuing a prospectus which paints in fairly rosy colors the future of that prospect. But it is our determination that money obtained by the sale of stock shall be spent in the development of the property in question. It must be recognized that capital is needed at the beginning of the opening of every prospect and that those most promising not infrequently turn out differently on development. The biggest propositions must have a start, but those who put their money into them at the beginning must have fair treatment. Briefly it should be the duty of us all, in the interests of the public, to see that the mineral and not the public is mined.

Revival of Local Treatment as Regards Flotation by Dean Francis A. Thomson, of the College of Mines, Moscow, Idaho.

Dean Thomson stated that it was not his intention to hold very closely to the limits of the title inasmuch as it was his desire merely to touch, generally, on the development of the smelter and the rapid improvements being introduced constantly through advances in metallurgical methods.

It was not many years ago when throughout all the mining States and in British Columbia there were numerous little smelters. They had been dotted all over the landscape and their remains still were to be seen, a somewhat dismal reminder of the past. It had been discovered through experience that it did not pay for a single mine, small in its output, to attempt to maintain a smelter. This experience resulted in a combination of properties for the maintenance of the smelters to handle their joint production. The change was found to work admirably. The method then was carried further and we have the present conditions of very large smelting plants handling the product of considerable mining districts.

Revival of Small Individual Treating Plants at Mine Site.

It was Dean Thomson's opinion that another step in the process of evolution was about due, and in this connection he referred to the very rapid development, and to the wonderful achievements of hydro-metallurgical methods. He spoke of some of the things that already have been done along this line with particular reference to silver, lead and zinc and expressed the opinion that all this was but the beginning, and that some remarkable advances were probable in the not distant future. The time was coming when we would lose the period of consolidation in regard to smelting, and go back, in a measure, to the small installation at the mine. His theory was that the ore would receive treatment at the mine metallurgically, after which it would be shipped to the smelter for refinement. He did not want it to be taken that he held the opinion that the day of the smel-