agents have not up to the present been apprised of any definite action with respect to the affair."

Miners Resent Order.—A despatch from Nanaimo, published in this evening's "Times" (May 2), is as follows: "Mr. Foster's action in calling a general strike was taken without first submitting the question to a vote of the miners concerned. Of the 1,500 employed in the Nanaimo mines, only 200 are members of the organization which has called the strike in the local mines and a large majority of the men resent the action taken by this small minority. A mass meeting of all employees will be held to-night, when a secret ballot will be taken on the question as to whether Nanaimo miners will recognize a strike order of the United Mine Workers. It is said that there will be an overwhelming majority in favor of continuing work, as the men are working under an agreement with the Western Fuel Company, which has still at least five months to run and which they feel in duty bound as honourable men to respect."

It may be added that some time ago the Nanaimo miners refused to go out on strike in sympathy with those at the Cumberland and Extension mines of the Canadian Collieries (Dunsmuir) Limited, and at which non-union labour has since been employed, with an increasingly large number of men working at Cumberland and a commencement made with some 200 men at Extension. Published figures show that during three months ended March 31 the output of coal from the Cumberland mines was 96,818 tons, as follows:—January, 29,541 tons; February, 30,036 tons; March, 37,241 tons. For the week up to April the latest figures at hand, the output was 9,191 tons, or better than 1,500 tons a day.

PRINCIPLES OF MINE VALUATION*

By JAMES R. FINLAY

I have always supposed, and I think that nearly all mining engineers agree with me, that there are three or four fundamental factors about a mining prope... which determine its value. These are:

1. The average cost of securing the products of that mine.
2. The average price at which those products can be sold.
3. The rate of production of the mine.
4. The time for which that output can be maintained.

I do not intend to go into detail as to any of these factors, but to point out some things which I think are worth considering, in the hope that later you will think about them and learn the details for yourselves.

In regard to the average cost: In the case of going concerns, that average cost can be obtained empirically by simple reference to the books—to what has actually been done on the property. That seems and sounds exceedingly simple. As a matter of fact it is not easy. I made the mistake once of thinking that it was. I bought a mine in Joplin, Mo., to be specific, on a record of its cost for six months. The reason I did not go further back was that older records were not to be had, and also because during this particular six months the property had reached a substantial basis. I figured that the concentrates from that mine could be produced perty should produce so much ore and that the price would be a certain figure. It happened that developments proved that I was right about the price and the quantity of ore on the property, but they also proved that I was wrong on the question of costs. It cost us nearly 75 per cent. more to produce concentrates from that ore than the record of the property showed. There were times when we produced concentrates for $15 a ton, but that was not representative of the while period of working the mine. I think you will find today that a great many of the cost statements given out by different companies for fixing the value of their stocks are only temporary or occasional costs, and will not stand analysis, and cannot be maintained during the whole life of the property.

Then there is another factor in which people deceive themselves, unconsciously, but in the simplest and most obvious ways imaginable. They keep on doing it, always have done it, and I suppose always will do it. That is, by failing to see the relation between expenditures that are for plant and those for keeping it going. In keeping books it is very easy to say that the construction of a building, the remodeling of a mine, or the building of a new mill, is something that will not happen again, that it belongs to the property and not to the operation; to a certain extent that is true, but it is a fact, which I have verified by looking up a great number of mines, that the so-called operating costs are ordinarily not more than 60 to 80 per cent. of the total cost. Until a mine is shut down, there is always some expenditure to be undertaken which a bookkeeper may think will not be repeated, that it belongs to the plant, but these things keep occurring so constantly that one who is figuring on costs must count on them. That is, to form an estimate that is correct or approximately correct will require a good deal of judgment and experience.

Another thing I believe to be true is that any estimate of cost, or valuation, or anything relating to the future, is a good deal of a guess. One who thinks he can estimate a cost, whether of a going concern or a concern to be started, to a fraction of a cent, or to any fixed amount is simply mistaken. All you can do is to put a round figure which seems to be pretty near the facts. Of course, the difficulty of estimating costs at a mine which is not yet opened is considerably greater than at a mine that is going, for very obvious reasons.

The next fundamental factor in forming an idea of the value of a mine is the average price of its product. I will go so far as to say that this is the most important factor to be considered. The literature on this subject, I think, has not done justice to the importance of prices because apparently a good deal of the best thought given to the subpect of valuations has been by English engineers who had in mind principally gold mines. Gold, of course, is the only product of mines the value of which is fixed; consequently most of the discussions on mine valuation among engineers have been devoted to the third factor, which I will come to later, viz., the uncertainties in amount of ore in a mine and the part that deveolped ore plays in the estimate of a total valuation.

*An address delivered at The Columbia School of Mines.