

COAL MINE FATALITIES IN CANADA.

Written for the CANADIAN MINING JOURNAL by

F. W. GRAY.

An article has been going the round of the Canadian newspapers in the mysterious and exasperating way that some newspaper paragraphs do circulate, which purports to summarize the information relating to mine accidents in Canada that is to be found in the Minerals section of the Report of the Commission of Conservation issued from Ottawa in June, 1911. The article referred to, whether purposely or otherwise, quotes in a very misleading manner from the figures given by the Commission, and makes the astounding statement that the fatality rate in Canadian coal mines is the highest in the world, and that whereas European statistics show a decreasing death rate, the Canadian death rate is increasing. Most editors who have clipped this paragraph have accepted it at its face value, and deplored the seeming apathy of Canadian mine owners and officials; while the uninformed reader, with a pathetic faith in the printed page which still lingers amongst us, has received another impression of the dangers of the mine, to add to already exaggerated ideas on this subject.

Reference to the figures furnished in the Report of the Commission establishes the following comparison between the rate of fatal accidents per thousand employees in various coal countries:

	1904	1905	1906	1907	1908
United States	3.38	3.53	3.40	4.86	3.80
Canada	3.97	2.10	2.59	3.74	3.31
Prussia	1.80	1.85	1.94	2.36	2.61
Great Britain	1.24	1.35	1.29	1.31	1.32
Belgium	.93	.91	.94	1.04	1.07
France	.89	.84	7.17	1.10	.95

It may be seen from these figures that Canada is the only country where the death rate per thousand employees showed a decrease in the period reviewed by the Commission.

In fairness to Nova Scotia a sharp distinction should be drawn between it and British Columbia. Taking the same years as in the preceding table Nova Scotia and British Columbia compare as follows:

	1904	1905	1906	1907	1908	Av'ge
British Columbia...	8.31	2.72	3.12	5.11	2.95	4.44
Nova Scotia	2.40	1.85	2.39	3.05	3.48	2.63

If the whole decade 1900-1909 is reviewed the fatality rate of British Columbia will be found to average 9.65 per thousand, comparing with 2.65 per thousand in Nova Scotia.

There are two methods of comparing the rate of mine fatalities, namely the rate per thousand employees, and a tonnage basis. On the basis of fatalities per thousand employees Canadian mines compare unfavourably with European mines, but if the tonnage basis is employed the comparison takes a somewhat different aspect. It may be regarded as special pleading to urge a comparison on a tonnage basis, but there are circumstances connected with the development of coal mining in Canada which are of a special nature, and the same is true of the United States in a more marked degree. In European countries coal-mining has become a very specialized science, and the mining of coal is done by a class of men whose fathers and grandfathers were miners before them, men whose ancestry and training have developed in them what may almost be termed an hereditary instinct. The development of the industry has been slow when compared with the phenomenal increase on this side of

the Atlantic, and possibly the most striking feature is the great disparity between the rate of production per man employed in Europe compared with America.

A very suggestive article in this connection was contributed to "Coal Age" in the issue of 6th January, by J. T. Beard. In this article, after pointing out the peculiarity of American coal mining conditions, such as the influx of foreign labour, demand for coal, and rapid development of mines, the writer expresses himself as follows:

"... the degree of efficiency with which the mines are managed would be properly represented on a tonnage basis. In other words, the death rate should then be expressed as the ratio of the number of fatalities to the tonnage of the mine, and not to the men employed. This seems to me a more fair basis of comparison."

and concludes his remarks by stating that—"taking the tonnage basis as the proper method of estimate, which I believe to be a nearer approximation to what it is desired to show, the death rates for these years are lower in the American than in the English mines. It will be observed that the death rate, on this basis, has uniformly decreased in Pennsylvania during this period, year by year, while in English mines the rate for the same years shows a uniform increase."

This is a bold contention, which may reasonably be objected to on obvious grounds, but, nevertheless, the article is one to ponder over. There are many reasons why the tonnage yield per man is greater in America than in Europe, but the principal cause is to be found in the differing nature of the coal deposits. Many of the coal seams in the United States offer ideal conditions for the extraction of coal at a very rapid rate. The seams are thick and of but slight pitch, and are so situated in the hill sides that haulage, drainage and ventilation problems really do not exist. It is not overstating the matter to say that American methods of extraction have been, and in many instances still are, wasteful, and that so far but little attention has been paid to thin coal seams such as are being worked in Europe. Electricity is employed underground in a manner that would make a European or a Nova Scotian engineer nervous, and it is only necessary to scan the advertising pages of an American coal-mining journal to see how wide-spread is the use of naked lights and acetylene torches. Not everyone will go so far as to agree with Mr. Beard that "the degree of efficiency with which a mine is managed would be properly represented on a tonnage basis," or that the death rate should be expressed "as the ratio of the number of fatalities to the tonnage of the mine, and not to the men employed." Nevertheless, there is much in Mr. Beard's contentions which would give rise to fruitful discussion.

In the same issue of "Coal Age" coal-mine mortality statistics are discussed by Frederick L. Hoffman, no mean authority, and he comes to the conclusion that—"the record for nearly all the states and provinces is not one which warrants the assurance that material progress is being made in the reduction of the preventable loss of life in coal-mining operations in the United States and Canada."

The following table gives a comparison on both the tonnage basis and rate per thousand, between Great Britain, Canada, Pennsylvania and the two provinces of British Columbia and Nova Scotia, all the figures except those relating to Canadian mines being taken from Mr. Beard's article previously referred to. The figures for Alberta are not included in the 1908 statement, not being available.