

TO LESSEN RAILWAY ACCIDENTS.

It is a matter of the greatest possible public interest that accidents on railways should be reduced to a minimum. The railways of Canada are undoubtedly doing their utmost towards this end, notwithstanding what people may from time to time declare to the contrary. The management of these great systems would never have made such a success of their roads had they not adopted a variety of precautions for the safety of the public. No one knows better than they that an accident means not only the destruction of thousands of dollars' worth of rolling stock and delay to traffic, but also danger of prosecution, besides the gaining of an unenviable record with the travelling public. It stands to reason that great care will be taken by the railways to prevent accident.

That the manufacturers of the equipment in use by the railways will also exercise great care in its production is almost equally apparent, as the railways, in justice to themselves, would have to refuse to purchase supplies from works which turned out cars or rails which became responsible for accidents. In fact, at the recent annual dinner of the Canadian Society of Civil Engineers, Mr. King, of the Canada Car Works, spoke of the awful loss of life in America through accidents, and said that employers should do their utmost to ameliorate conditions so that the people might live out their days in reasonable safety.

Yet a cruel loss of life, through the instrumentality of railways, still continues. For the fiscal year ending June 30, 1906, some 361 fatal accidents occurred to passengers, employees and others on Canadian railways. It is encouraging to note that this is below the figures of the previous three years; still, it is nearly one death per day. The thought naturally arises, What can be done to lessen danger through railways?

In this connection a most interesting discussion arose out of a paper contributed by Mr. H. K. Dutcher, of the Canadian Society of Civil Engineers, at the last monthly meeting of that body in Montreal. The paper had reference to the value of the indentation test for steel rails. The discussion of the paper brought out the statement by several of those present, who had taken a special interest in steel rails, that the quality of these had deteriorated greatly during the past few years. Even the experts showed considerable diversity of opinion as to why this should be, but the concensus of opinion was that the present day rush was in no small degree responsible. Speaker after speaker commented upon some defect of the large rails now being turned out, and compared their quality unfavorably with the splendid, old, small rail. Eventually the chairman was requested to bring in a report at the next meeting with a view to appointing a committee of engineers, manufacturers and Government officials to see what could be done to improve matters.

The appointment, by the Government, of Mr. James Ogilvie as inspector of rolling stock and general equipment of Canadian railways, and the intimation that the position of inspector of railway accidents will shortly be filled, opens the way to a very thorough examination of the whole subject. Mr. Ogilvie is a civil engineer with experience in railway matters, having recently held the position of superintendent of motive power on the Ottawa division of the Grand Trunk; and no doubt a fit man will be appointed to the inspectorship of railway accidents.

Probably these officials will be invested with authority to carry their investigations to the point aimed at by the Society of Civil Engineers. If not, now is the time for the Society to act. The subject is most important, and none but those of both technical and practical knowledge may hope to grapple successfully with it. It is probably true that only a very small percentage of rails is unreliable. This, however, is a case of the chain being no stronger than its weakest link,

and it only requires but one weak rail to occasion an appalling disaster. One thing which must touch us all keenly is that no one knows but that he may be the sufferer.

The Society will be doing the public a very great service in taking further active interest in the knotty problem they have been discussing, and which is of such great importance to the entire country.

MINERAL WEALTH OF ONTARIO.

The mineral production of Ontario for the year 1906, according to the report prepared by the Bureau of Mines, shows an increase of more than four million dollars over 1905, the total output being valued at \$22,221,808, as against \$17,809,226 in 1905. These figures are based on the value of the minerals while in the form in which they are exported. The net value of the metallic output amounted to \$13,179,162; the non-metallic, \$9,042,646.

Noteworthy gains during the year were: silver, with an excess value of \$2,170,212; nickel, \$481,485; copper, \$309,555; pig iron, \$644,720. In the non-metallic group, Portland cement heads the list with an advance in production of \$595,563, and the excess value of natural gas was \$216,970. There was not as much crude petroleum produced as in 1905, the value falling off \$126,999.

There was a considerable increase in the output of the various products from the Cobalt mines over 1905. The total output of silver amounted to \$5,357,830 ounces, valued at \$3,543,089, the 1905 output being valued at \$1,360,503; Cobalt, 312 tons, valued at \$300,819, as against 118 tons, valued at \$100,000, in 1905. There was an excess in the output of nickel of 81 tons, the output in 1905 being only 75 tons, valued at \$10,000. The output of arsenic was somewhat less, being valued at \$1,558, as against \$2,693 in 1905.

Up to the close of 1906 the Cobalt camp has produced 8,016,061 ounces of silver at a total value of \$5,015,475; 446 tons of cobalt, 245 tons of nickel, 1,919 tons of arsenic. These three last-named minerals have brought little or no return to the mine owner. They are, however, estimated to be worth \$150,779, \$13,467, \$3,596, respectively. However, the production in 1906 was very much greater than in 1905.

Taken as a whole, it may be said that last year was an exceptionally successful one, and if present indications of operations in the various mining camps are to be taken as a criterion, this year's output should surpass to an extent which it is almost impossible to predict that of any previous year in the mining history of the Province.

PIG IRON.

The pig iron production of the Dominion is keeping pace with the growth of other industries. In thirteen years the increase has been about 1,200 per cent., an average of nearly 100 per cent. per year. In 1894 the output was 44,791 tons, and in 1906, 541,957 tons. The production of last year was double that of 1904, when the output was only 270,942 tons. The output per year since 1894 up to last year is given in the following table:—

1894.....	44,791	1901.....	244,976
1895.....	37,829	1902.....	319,557
1896.....	60,030	1903.....	265,418
1897.....	53,796	1904.....	270,942
1898.....	68,755	1905.....	468,003
1899.....	94,077	1906.....	541,957
1900.....	86,090		

Last year there were thirteen blast furnaces in operation, and in 1905 there were thirteen during the first half of the year and twelve during the latter half. The outlook this year is exceptionally bright, and when the immense iron ore discoveries around Port Arthur