

even these could be minimized if our explosives were all they should be. In other parts of the British Empire where manufacturers are amenable to law and where conditions of manufacture are standardized, accidents in mines from explosions are relatively rare. In Canada the explosives' accidents account often for 50 per cent. of the total mining fatalities. This is certainly not to our credit.

The Dominion Government in 1910 secured the services of Captain Arthur Desborough, H.M. Inspector of Explosives, to make a thorough investigation of the explosives industry throughout Canada. On his exhaustive report was based the bill, referred to above, which was submitted to the House of Commons during the session 1910-11. It has not yet become law. Without question the passage of this bill should be the first duty of the present Government.

#### THE BELLEVUE EXPLOSION.

Our readers will remember that in a letter published in these columns last February, Mr. Robert Coulthard took exceedingly strong exception to Mr. J. G. S. Hudson's diagnosis of the Bellevue explosion and to certain of his statements of fact.

An article published in "Coal Age," October 5, reprints in part the conclusions of Messrs. John T. Stirling and John Cadman. Microscopic examination of the roof rock from the Bellevue mine showed it to be siliceous with a bituminous cement. It has also been demonstrated that sparks are often generated by falls of rock from the roof. There is little need of pointing out the possibilities of a fall of rock in the presence of an explosive admixture of gas and air. In a general way this confirms Mr. Hudson's report.

#### THE PORCUPINE STRIKE.

The latest information before going to press concerning the labour troubles in Porcupine is encouraging. The struggle is centering round the Dome and the Hollinger. At both mines large numbers of men are at work. Not once during the strike has the Dome production fallen below 200 tons per day. This will soon be increased. It is expected, also, that the Hollinger output will presently become normal. Several smaller mines such as the McEnaney, Plenaurum, Vipond, and Jupiter are closed completely, and their operators are playing the part of interested spectators. It is patent that the men will not win.

Many newspaper stories about shooting affrays have been circulated. It is most unfortunate that the strikes have given actual cause for these reports. However, in the main, the strike has been conducted in an orderly manner.

For some time to come Porcupine will feel the effect of the present trouble, inasmuch as many of the best miners have left the camp not to return. This and the loss of time and wages is too high a price to pay for an easily avoidable holiday. As a matter of fact, the strike was totally unnecessary. Unquestionably the

men, had they calmly discussed matters with the operators, without attempting to quit work, would have put themselves in a very much better light. It seems evident that the miners are under the domination of irresponsible and mischievous demagogues. Not otherwise can we account for their lack of wisdom.

We are convinced that men should be punished for precipitately striking before either formulating or discussing their demands. It is high time our labour legislation were given more positive application. A preventive, not a cure, is needed.

#### THE HOMESTAKE.

Few more interesting plants exist than that of the famous Homestake mine, a mine that has yielded nearly thirty millions of dollars to its fortunate owners.

An exhaustive description of the milling equipment and practice has just appeared in the latest bulletin of the Institution of Mining and Metallurgy. The paper is far too lengthy to summarize here, but there are a few salient points worthy of special mention.

Thirty years of steady productiveness "with an ore "uniformly of low grade and in a region of high wages "and high freight rates" is surely a proud record. Let us see how it is done.

The Homestake ore contains about \$3.50 in gold. 72 per cent. of this gold is recovered as amalgam; 22 per cent. by cyanide; a total of 94 per cent. The crushings amount to 125,000 tons per month from 1,000 stamps. Much surface ore is won cheaply by means of glory holes and is profitably milled when it contains as small a quantity of gold per ton as \$1.50. But the general average is as mentioned above.

The administration checks every possible source of waste, knows from hour to hour what is happening at the mine and mill, and carefully tabulates and records every significant item. For instance, the loss of mercury is regularly watched and allocated. It is known just how much is lost, where and how the loss occurs, and what each class of ore requires. In a similarly complete manner the operation of each successive process is exactly controlled and the cost segregated. It is almost impossible for even trifling losses to occur without the knowledge of the management. Stamp-milling costs between 27 and 35 cents per ton of ore, the lower figure being due to the use of electric power. Cyanide treatment costs not more than 21 cents per ton treated. Thus the total mill costs are from 48 to 56 cents per ton. Ore breaking costs about 6 cents per ton of ore. With exceptionally low mining costs it is evident that a handsome profit is made on \$3.50 ore.

A few mill details may be mentioned here. The falling weight of each stamp is 900 pounds. The shoes are of special chilled cast iron, the dies of hard cast iron. Nearly all the cast iron parts are made at the company's foundry. The screens are needle-slot, corresponding to from 30- to 35-mesh wire. Inside amalgamation is practised, and there are also outside plates 12 feet long by 4½ feet wide. The mercury is fed hourly