

The only mine in the North Island requiring special attention during the year was the Taupiri Mine, near Huntly, which was partially flooded, owing to the ground having given way at the end of one of the bords that had been driven a little too far under the edge of a swamp; but this accident fortunately produced no serious results to the workmen, nor permanent damage to the mine.

In the Middle Island Mr. Binns has devoted a great deal of time and attention to the workings in the Shag Point Mine, near Palmerston, which, unfortunately, had to be closed in February last, owing to the large influx of water that percolated through the covering of the coal in the sub-marine workings. Inspectors have, in the case of those mines subject to inundation, fire, emissions of gas, or other causes endangering life, a difficult task to perform: on the one hand, they are naturally anxious to see the coal mines developed; but, on the other hand, they incur a great responsibility if they allow mines to be worked when there is imminent danger.

The Kaitangata Mine, near Balclutha, has likewise received a deal of attention from Mr. Binns, on account of its fiery nature, and being liable to spontaneous combustion, which requires careful and minute inspection to see that there is a constant supply of fresh air passing through every portion of the workings, and that the vitiated air may be conducted to a proper upcast. One of those spontaneous outbursts has recently occurred, but, fortunately, no lives have been endangered by it, and it is to be hoped that the steps taken to subdue the flames will be successful.

Much attention has been directed to the ventilation and working of fiery mines in Great Britain by able and scientific men, who have done a great deal towards improving the conditions of safe working. It will be of interest to quote the remarks of Mr. Wardell, one of Her Majesty's Inspectors of Mines for the United Kingdom, on ventilation, as taken from his report published in the *Colliery Guardian* on 3rd August last:—

In all previous reports I have more or less offered observations and suggestions on the subject of ventilation, and other kindred topics so important to the safe working of mines. Those opinions are still held good, and the various recommendations from time to time brought forward apply with equal force now. For instance, an abundant sectional area, allowing the air every possible facility in transit, with a minimum of friction, has been always advocated, and, as a general principle, is not only admitted, but is being acted up to, with, I think, marked improvement year by year. Other aids and auxiliaries must be, as such, carefully attended to; but such aids, on the one hand, and capacious courses, on the other, unless accompanied by one or the other, are worthless and worse than vain. I think this fact is becoming more and more widely understood by the workmen themselves, as well as by those in charge, and there can be little doubt but that advantage and increased safety will accrue from this extended knowledge. Incautious methods of lighting mines and blasting no doubt still are practised in many cases, and I must again, as formerly, express my disapproval of such systems as admit of the use of naked lights in seams giving off gas, or of the promiscuous mixing of candles and safety-lamps, and yet further the simultaneous use of safety-lamps with gunpowder. The adequate ventilation of a mine is of the highest importance, but this is not to be obtained to the exclusion of equally important measures. An explosion is not necessarily the effect of a defective ventilation. Many accidental circumstances arise in the shape of unexpected outbursts and "blowers" of gas, which in a moment fill the workings. The suddenness of these discharges, with the enormous pressure at which the gas is evolved, render the best ventilation for the time being powerless, and it is at such times when an open light or a defective lamp may furnish the cause perhaps hastily ascribed to lack of adequate ventilation. Here, in this district, several instances have occurred during last year, as in, I think, nearly every other year reported on, where, but for the most perfect state of the safety-lamps in use, and the rigorous discipline maintained, the death-roll I have to record in this report would have presented a very different aspect. The fact that these "outbursts" have passed off without causing loss of life may be fairly looked upon as an encouraging sign, from which may be deduced the belief that not only do those in authority more fully appreciate the necessity for enforcing a constant vigilance and strict attention to rules, but also that those who are employed as workmen themselves more completely realize with a growing intelligence that, in co-operating to maintain such caution and observance of rules, they are in the surest possible way promoting their own safety. A safety-lamp of the most perfect known description is, under such conditions as those mentioned above, amongst others an absolute necessity for the preservation of life. No one is able to foretell these outbursts, but the fact of their having occurred over and over again without leaving behind a record of death is the best and most convincing proof that loss of life need not necessarily follow in their train. There are certain precautions which ought to be, and in these cases were, taken, which at any rate reduce to a minimum the risk attending sudden issues of gas. I am as far from saying or believing that all or even the larger proportion of explosions occur from an ignition of gas produced by an outburst as I am from holding an opinion that ventilation is a matter of no material consequence. I wish to be clearly understood that in instancing explosions of the above class I do not in any way detract from the necessity of ventilation any more than I advocate the use of safety-lamps without concurrent precautions. I believe both to be