

very freely. Williams is the contractor for this Slope, and although we were accompanied by the fireman, Powell, I am afraid Williams acts as deputy fireman in Powell's absence, and being the contractor perhaps neglects safety for finance. If he at all acts as fireman while contractor he does not carry out the provisions of the Coal Mines Regulation Act and special rules thereto.

A dangerous practice exists in this mine on Haulage Motor Road, by working motor in the return airway from old workings to the dip and east of motor. The air ought to enter that area at the north end off Motor Road and return from south end by an air crossing over Motor Road direct to old workings and to fan taking off doors on Motor Road, which are undesirable.

Similar ought to be done with Williams' Slope by the air entering slope off Motor Road and returning by counter on south side of slope by air crossing over Motor Road to old workings and thence to fan.

The east and west districts are ventilated by a split each, and by the introduction of these other two splits which are absolutely necessary for the safety of the mine, proper ventilation would be secured.

When visiting a few working places at part marked "B," on Map No. 1, an impalpable dust prevailed in these places in suspension in the air in the ordinary working.

The rooms here were being driven too wide and pillars too small, with the result that too much timbering was necessary and the timber was not strong enough; these workings showed signs of creep. I presume the air hoists for letting down output is to avoid double track by gravity because of avoiding the heavy maintenance in keeping and supporting a double track.

This system of wide rooms and small pillars does not only exist at these mines but I regret to say that it is very glaring throughout the State of Washington, U.S.A., and the Province of British Columbia, for the purpose of rushing a large output at the risk of losing the mine altogether.

*Nos. 2 and 3 Mines.*—The suggestions I referred to previously in ventilation, haulage, watering of dust, with dust-tight cars, blasting and safety lamps, are imperative, and ought to be adopted for the safety of the mines. Good discipline, which seems to be generally lax in all the mines more or less, and more particularly by the foreign workmen, whose interpretation of instructions from the Statute Officials is far from what it ought to be. Dangers in many ways arise through this difficulty of imparting instructions to workmen, and can be improved upon by the Inspector of Mines, who is empowered by the Act, in section 69, sub-section (2), as to "any person unable to clearly understand instructions conveyed to him."

There can be no doubt as to the explosive condition in McDonald's Level, where the explosion occurred, and would have happened there, but probably would not have gone throughout the whole mine had the best system of watering been adopted, or other treatment equivalent to watering, in all parts where dust is lodged, whether on roof, floor, sides or timbers, and if the other feeders of gas had been absent.

The blast traversed the return airways as well as the intakes, doing as much, if not more, havoc in the working places and return airways than in the intakes and haulage ways. On some of the haulage ways the havoc was moderate, excepting the air crossings, proving that it was not a dry and dusty mine throughout; whereas, in the accident which occurred last year at the Universal Mine in Wales, with an almost equal loss of life, according to a report to the Home Office on this explosion, Professor Galloway, who is one of our greatest authorities of the day on explosions, says:—"The Union Pit was a new one, the colliery was well laid out, the ventilation good, and the engines and equipment generally were of a first-class description. The system of watering was probably superior to that to be found in many mines. Pipes were laid along the main haulage roads for an aggregate distance of 1,450 yards at each side of the shaft, in which water-cocks were inserted every 40 yards, from which roads were sprayed by means of hoses. In spite of these appliances, it is generally agreed that the whole of the workings at the Universal were dry and dusty when the explosion occurred."

On an exhaustive examination of the workings, two circumstances are clear—first, that the explosion followed the course of the intake workings used for haulage, where there was dust and no firedamp, scarcely touching the return airways; and, second, that the explosion failed to affect those parts of the workings which were permanently wet from natural causes.

The use of dust-tight cars would greatly minimise it, and, supplemented by thorough watering, would no doubt be adequate. As the result of long experience in the South Wales Collieries, that thorough watering suffices to prevent the settling of the dust upon walls, roof