

blast, an unsound safety-lamp, or even a match by which some unlucky workman, forgetful of the rules, undertook to light his pipe?

None of the forty-four men who witnessed the beginning of the catastrophe escaped to explain the mystery; and those rescued from more distant galleries had but conjectures to offer.

The workmen, on receiving assurance that the mine was free from gas, went down the drawing-shaft, took their safety-lamps at the lamp-cabin and went, a part of them into the north-side works, and the rest into the south-side dips, where they waited for their tools. At this moment, the explosion took place. It was first noticed at the fan-shaft, and a minute later at the drawing-shaft, having in one case travelled with and in the other against the ventilating current. Additional facts were gained, at the imminent risk of life, by Mr. Gilpin, and are as follows:

The exploring party went as far as the after-damp would allow. The locality where the workmen were known to be was 1,200 yards south of the shaft, and the party went about 600 yards in that direction. It was evident to them that the flame had not reached so far, for no marks of fire were on the dead bodies found, nor was the splintered woodwork charred. The walls looked as if swept by a broom, and were clear of timber. Volumes of dust lay on the floor, into which the party often sank to their knees. Clouds of finer particles were swept on into the north-side levels. At the lamp-cabin an open light had been kept burning for years, as it was considered safe, being within a few feet of the bottom of the shaft.

But here a secondary *explosion* took place, demolishing the cabin, fatally injuring the lamp-man, and burning the horses near by. The effect did not extend far into the north-side, and the men there were ignorant of the disaster, till warned by the overman to leave the pit. Secondary explosions, caused by generated, or extracted, gas, are usually near the primary one. But here is a case where the second was half a mile from the first, with an intervening space of a quarter of a mile known to be free from gas, because men were in it with lamps which gave no sign of its presence.

The ignition of these volumes of dust did not harm the shafting, because it was wet, and the flame was extinguished as soon as it touched the damp walls. Elsewhere this mine was a very dry one.