heat from the fire had damaged had been made safe, work was resumed as usual.

Accidents by Fire-damp Explosions.

As will be observed by glancing over the tables, there were seven fatal and one non-fatal accident in this district in 1901, by explosions of fire-damp.

Three of the number occurred from the careless use of open lights and negligence of the management in charge at the mines, as the engineers were allowed to pass into the mines for the purpose of making a survey without the mine first having been examined by the fire boss and reported safe.

Three of the fatal accidents occurred at the Grindstone mines, Pittsburg Coal Company, December 3, 1901, at 3.30 P. M., when a party of four engineers passed into the mines, for the purpose of making a survey. They were instructed by the mine foreman not to pass through the last cut-through with their open lights, and this appeared to have been a standing order at the mine, although it evolves considerable fire-damp and is worked with open lights. Two of the surveying party carried closed lights, and two open ones and in passing into the face of No. 7 butt entry, one of the party who carried the open light ignited the gas 178 feet from the face of the heading and about forty feet back of the last cut-through.

Two of the party that carried the closed lamps had passed on and were near the face of the heading when the explosion occurred.

Two of the victims died on the 9th, and one on the 15th of December.

There was no evidence of any great violence at the seat of the explosion, but there was that coal dust had added very materially to its intensity.

So long as the use of open lamps is permitted in mines that evolve fire-damp, similar occurrences may be expected.

On March 25, 1901, 9 A. M., an explosion occurred in the Gates shaft mine, due to a blown out shot near the face of the right parallel air course or where the right parallel air course crosses the main heading about 800 feet from the bottom of No. 1 shaft.

As a result of this explosion, Gibson Gilmore, George Pedesco, James Wilson and James Murphy lost their lives.

The operator had furnished and equipped the mine with everything necessary to operate it safely, but through lack of discipline and good management in the mine, by circulating the air around the face of the workings to such an extent as to dilute and render harmless the noxious gases, gas was allowed to accumulate in dangerous quantities, and as a result this very sad accident occurred. Below will be found the verdict at which the jury arrived after a very exhaustive investigation of nearly five days.

"James Wilson, George Pedesco, James Murphy and Gibson Gilmore came to their death March 26, 1901, from burns inflicted upon their persons by an explosion of gas in the Gates mine of the American Coke Company situated in German township, Fayette county, Pa., on March 25, 1901, caused by a blown out shot fired by Mike Goble in said mine when gas was present in dangerous quantities. We also find that said Mike Goble fired the shot that caused the explosion, without authority and contrary to the mining law. We further find that standing gas was present in said mine in dangerous quantities in various working places, in violation of the mining laws, and that the reason that the gas was present was owing to the improper and deficient ventilation of said mine due to failure of the acting mine foreman and fire boss to keep the mine clear of standing gas and to keep workmen from entering when gas was present in dangerous quantities.

FRANK H. TAYLOR,

Coroner.

Alfred H. Hood, David Blackburn, Jas. W. Stouffer, Bernhart Walker, Michael Darr, Sr. Thomas M. Fee.

There appears to be a prevailing opinion among some mining men, that they can operate a mine that evolves fire-damp, successfully and without risk, by the use of open lamps, but it appears to me, that men who imagine themselves capable of doing what other men have failed to do, assume too much to be successful and prudent mine managers, and in my oponion, so long as the use of open lamps is permitted or tolerated in mines, that evolve marsh gas, just so long may we expect to be startled by the sad report that another explosion has occurred, and lives have been foolishly sacrificed.

The following is the coroners jury's verdict, at the inquest which was held December 13, 1901, at Brownsville over the body of Charles Zimmerman, one of the victims of the Grindstone explosion: "That the said Charles Zimmerman came to his death, December 13, 1901, from injuries received in the Grindstone mine of the Pittsburg Coal Company, Jefferson township, Fayette county, by an explosion of gas on December 3, 1901, which was caused by an open light in the cap of William C. Heath, coming in contact with standing gas in entry No. 7, 178 feet from the face of the heading, and we find Mine Foreman James N. Eaton guilty of neglect of duty in having permitted deceased to enter the mine, without it first having been properly examined by the fire boss or by himself; also for permitting standing gas in said mine.