

mistake, or were overly anxious, after tapping the water and locating the old slope workings, to produce a little coal for steam purposes and the use of their employes, the fact of the bore holes showing that the old slope workings were two hundred feet west of the point where the fatal breast was being worked, they felt quite confident that the point of danger was passed. Notwithstanding, had I, as Inspector, anticipated that the officials had any intention of working a breast, I certainly should have protested against it, until the water had been drained out of the old workings down to that level; not that I should have anticipated any serious danger, but as an extra precautionary measure against unforeseen dangers.

In the other disaster, at the York Farm colliery, in which fifteen persons lost their lives by an explosion of gas, had the workmen been instructed, and had they followed out the instructions, to have thrown open the battery doors between the intake and the return, it is more than probable that the accident would have been prevented; for two reasons, first, the volume of fresh air would have been very largely increased on the one hand, whilst the volume of gas that was swept along with the current would have been very materially diminished. But, as we have already remarked in the other case, the officials used every precaution in their judgment in endeavoring to prevent accidents from that source that cost the lives of the fifteen victims.

It will be understood that these two disasters cost the lives of twenty-five persons, or fifty per cent. of all the lives lost in the district for the year, yet neither of these collieries had produced any output of coal, but were simply developing, or opening up the old workings, preparatory to mining and producing coal for market; hence we do not consider that under the circumstances the great increase in the death roll should have much bearing on those which were *producing* collieries, in their regular order of mining and shipping coal to market.

Outside of these unusual calamities, we are free to say that the condition of the mines in general is good, and with the exception of small concerns, or in some parts of the larger collieries where nothing but "robbing" is being done, the ventilation is adequate, and, in fact, in much larger quantities than required by law; but as a matter of fact, most of the fiery mines require much larger volumes than the minimum quantity provided for in the act of assembly.

YORK FARM COLLIERY DISASTER.

On the 23d of July, 1892, one of the most destructive explosions of gas that has occurred in the southern anthracite coal field during the last twenty years, took place at this mine causing the death of fifteen persons. The colliery is situated near the borough line of Pottsville, and was opened between fifty and sixty years ago; after working a number of years, and the slope reaching a depth of twelve hundred feet, the

mine was abandoned, and remained in that condition for about thirty-five years. About three years ago the lands were purchased by the Lehigh Valley Coal Company, and a new and extensive plant built. The water in the old workings was taken out, and the old slope continued down three hundred feet below the old level. Tunnels were driven north and south, cutting several seams of coal; the last cut on the lower or new level wherein the explosion occurred, is what is known in this locality as the Salem vein.

At the time of the accident there were only two breasts working on that level, shown on sketches Nos. 1 and 2; the ventilation being produced by two fans each, 21 feet in diameter, hence a large volume of air was circulating; in fact, according to the testimony of the miners themselves, before the coroner's jury, they stated that the air current was so strong that it made it disagreeable for them to work, by reason of the high velocity of the current filling their eyes with dust. However, it is a well known fact that where large volumes of gas are suddenly discharged from the strata by outbursts, that even large volumes of air are not by any means a sure preventive against explosions; in fact, we have had a demonstration of it in this case.

As we have stated before, there were but two breasts working on this level in the Salem vein, and it was No. 1 breast that was being worked by the two miners, William Lewellyn and Chris. Honicker where the outburst occurred. Both men had large experience in fiery mines, particularly Lewellyn. Every precaution, as far as the officials thought necessary for the protection of the employes had been taken, and no person was employed as a miner unless the foreman of the mine was satisfied that the man had previously been engaged in a fiery mine. The workmen were confined to the use of locked safety lamps, and dynamite was the only explosive used, and the shots were fired by electric batteries. The miners were also instructed, in case of any outburst, to notify the nearest official of the fact.

A short time before the explosion, Lewellyn and Honicker had fired a shot, and immediately after, Lewellyn discovered that a large volume of gas was being given off, charging the return current to an explosive point. He told Honicker that such was the case, telling him to stay in the intake heading, whilst he would go and notify some of the officials. In a few minutes Lewellyn found a fire-boss who had charge of that section of the mine, and they at once began to retrace their steps back to Lewellyn's working place, but just as they started back, an explosion occurred with such fearful results as I hope I shall never witness again, or have occasion to make a record of. As a natural result, batteries, timbers and brattices were blown out, and ventilation cut off, and the workings in the Salem vein were filled with explosive gas. However, ventilation was soon re-established, and every effort made to rescue the bodies by the willing hands of the brave-hearted men of the colliery. A

number of workmen from some of the neighboring mines displayed energy, skill and courage in their efforts to recover the bodies of the entombed men, and are worthy the name of heroes. The bosses, and a number of the workmen from Beechwood colliery deserve special mention, because they were under no obligation in any way to render any assistance, but willingly came and offered their services, without any expectation of being remunerated for their labor or the risk to their lives.

After recovering the bodies, we directed our attention to the question which would naturally be asked: How and where did the explosion take place? In our examination of the airway, and at a point about forty feet below the second lift gangway, three men were engaged in timbering and enlarging the main airway, or return. It will be noticed on the accompanying sketch that there are two airways running parallel to each other, connected every sixty feet by cross headings. Our first object was to examine that part of the opening where the men were timbering. Here we found the timbers blown in opposite directions; those towards the first lift having been blown up the pitch, and those below, down the pitch.

By following through all that part of the mine affected by the explosion, it was found that the same state of affairs existed. That part of the workings in the second, or bottom lift, the car at F. where George Stock was found, received the force of the explosion on the north side, crushing the north side of the car in, and toppling it over toward the south, and on top of the boy Stock; in fact, everything indicated that the explosion originated at the point in the airway where the three men were working.

There is no question in my mind whatever as to the point where the gas was ignited. The manner in which it was fired will never be known with any degree of certainty. The men who were working the airway were not there when the explosion occurred, but were found about eighty feet out from the mouth of air hole on the main gangway. It was my opinion at the time, and I still am convinced that the three men had either detected the air current charged with gas, or else they had been notified by John Harrison, the fire-boss. However, it was quite evident that in the excitement one of the unfortunates ran away and left his safety lamp behind, and we are of the opinion that the fire-boss, on learning of the fact, was on his way to make an effort to recover the lamp, and just as he got to the mouth of the air hole, the explosion occurred, killing him. The safety lamps were all found alongside of the victims, excepting the one that belonged to Wheyman, one of the men who was employed in the airway. Part of this lamp was afterward found in the airway, when the debris was being cleared up.

As a matter of course, this is nothing more than a theoretical conjecture, but the facts as well as the effect that left their marks written in

the course of the destructive element, gave strong grounds to form such an hypothesis.

Sketch A

Represents that section of the York Farm working in the Black mine vein, that is advancing towards the old Guinea Hill slope that was abandoned about fifty years ago, and is supposed to be one of the first slopes sunk below water level in the anthracite coal field. The parallel lines marked bore holes, show the number, direction, and the actual distance the holes have been bored in advance of working faces. It will be observed that there are five holes, varying in length from twenty-five to three hundred feet. However, up to this writing, the old workings have not been reached.

LYTLE COLLIERY DISASTER BY WHICH TEN PERSONS WERE DROWNED.

This colliery is situated about one and one-half miles northwest of Minersville. About two years ago the property was purchased by J. Stickney & Co., and afterwards leased to the Lytle Coal Company.

This property in former years had been worked very extensively, both on the east and the west side of the colliery now being opened by the Lytle Company. However, the old maps showed that there was a boundry pillar standing between the old western and the eastern workings, or what is better locally known as the Wolf Creek and the Forestville workings. As this pillar was about the only available place in the territory to open the property by a slope, the company determined to open up their colliery at this point, and sink their slopes in the boundary pillar on the Primrose slope. On the east side of this new slope opening, the Primrose vein had been worked to a depth of fifteen hundred feet below water level, or about nineteen hundred feet below the mouth or top of the new opening being made by the Lytle Coal Company.

On the west side, the condition of things was much more favorable, because the workings on the Primrose vein on this property had not been operated very extensively. A slop was formerly worked on this seam, known as the Old McDonald colliery, but was only worked one lift below water level, or about three hundred feet, and the gangway driven eastward up to the boundary pillar, or, thereabouts.

The new openings consist of two slopes; the one on the eastern side was sunk through the old water level workings for a distance of about four hundred and fifty feet. At this point the old Wolf creek water level was reached. The west side, or the main hoisting slope, was sunk in the boundary pillar, and was continued down about two hundred feet below the water level. In order to guard against accidents by reason of the water on the east side, holes were bored a distance of forty feet, and five feet apart, as the slope was being sunk. At the time of the