

### Remarks on Accidents.

The record of fatal accidents in this district for the past year has been favorable in so far as the ordinary causes are concerned, namely, falls of coal and rock by mine cars, and machinery; but, as usual, nearly half of them might have been avoided by ordinary care on the part of the victims themselves. A large percentage was caused by falls of rock, which exceeded those by falls of coal, which are usually foremost on the fatal list, while a very small proportion was due to mine cars.

On the whole, the reports of fatal accidents (excepting the Rolling Mill mine disaster) have been very satisfactory, considering the large quantity of coal mined, and the tendency of operators to hire any one who wanted work, regardless of whether he was a miner or not, the result of an urgent market for coal at good prices, together with a scarcity of labor.

#### **Rolling Mill Mine Explosion.**

This disaster occurred on the morning of July 10th, at about 11.30 o'clock, in the Klondyke district of the Cambria Steel Company's Rolling Mill mine, at Johnstown. I was away from home on duty and did not hear of the explosion until 5 o'clock in the evening, while I was waiting for a train at the depot in South Fork. I did not credit the report when it first reached me, as I thought it almost impossible for such a thing to occur in this mine, knowing its high reputation for ventilation and other essentials; so I went to a 'phone and called up the editor of our evening paper, who confirmed the report, adding that unfortunately nearly all the officials of the mine were also supposed to be lost. They were in the offices on the turnout, about one and one-half miles from the entrance, except four fire bosses, who were on a dilly trip ready to go out at the close of their turn. On hearing of the explosion, these latter, in company with the mine foreman, his assistant, the machine and labor bosses and an assistant fire boss, nine in all, had rushed down into the Klondyke, where they found several doors blown down. Some of them had commenced to make repairs here to aid in restoring ventilation, while others hastened to carry the news of the explosion to miners still at work and have them come out. In a short time the deadly afterdamp reached the officials, causing the death of five and overcoming the balance, leaving none of them to assist in the work of rescue.

I arrived at Johnstown at 6 o'clock in the evening, and at once drove to Mill Creek, a distance of six miles, the site of the ventilating plant, where a sixteen-foot Capell fan forces air into the workings. I arrived at this opening about 7 o'clock, and found that the fan had

not been disturbed, but was forcing into the mine a continuous current of 135,000 to 145,000 cubic feet of air per minute. I was also informed that a rescuing party had gone down the shaft, composed of the mine officials who were not in the explosion, with volunteers, and accompanied by some of the leading physicians of the city.

I pause here to pay a deserved tribute to the Johnstown doctors, whose services were of incalculable value in this catastrophe, and whose courage was astonishing. They were in the lead with all the rescuing parties, and saved several lives by the use of oxygen and other preparations with which they were supplied for the occasion.

Having previously supplied myself with lamps from my office, on my arrival at Mill Creek I at once entered the shaft and overtook the rescuing parties before they had reached the vicinity of the explosion. Before any work was attempted we organized the men into gangs, and formed relays, so as to be in communication with each other all the time, and gave the members of the party to understand that everything must be done in a systematic manner and strict discipline was to be maintained. It was my desire to prevent if possible any further loss of life, and to assist all in my power in the rescue of those who might be still living, and the speedy recovery of the bodies, and I well knew that to succeed in the first mentioned object, under existing circumstances demanded the strictest sort of discipline, as the daring and bravery of miners when the lives of their fellows are at stake is never surpassed, if indeed equaled, by any other class of men living.

Thus the task was commenced. At a distance of nearly two miles from the entrance of the mine the brave band of rescuers commenced their work, and within forty hours twenty-one men had been taken out alive and 112 dead bodies had been recovered, without a single accident to any of the rescuing parties. Out of 112 persons who lost their lives in this explosion, the bodies of only seven showed marks of having been burned, the balance having been suffocated by the after-damp.

When the recovery of the bodies had been completed, little work was required to put the mine in condition for operation, except for the repairing of a few doors and some brattice work, as the destruction from the force of the detonation was almost incredibly small, attesting to its feebleness, but I doubt if there has ever occurred in any mine an explosion where the after-damp was so destructive as in this case. The fact that it was such a feeble explosion, with its location on a fall, where there was little or no air to mix with the gas, is sufficient support for the theory that, owing to the absence of the air necessary to perfect combustion, the after-damp was particularly heavy with the deadly carbonic oxide; possibly three or

four per cent. immediately following the explosion; but enough to kill men almost instantly. Only at one place in the mine was there evidence that the explosion had been violent. That was where the air, coming in from the overcast, struck the edge of the fall, and enough of it, probably, mingled with the gas to bring the latter, or at least a small body of it, to the most explosive point. But where it was ignited the mixture of air and gas was possibly as low as four or five parts of the former to one of the latter, the result being a mixture at the lowest point of ignition, but producing an after-damp of the most poisonous character. In proof of the weakness of the explosion at this point, it may be noted that a door not over 350 or 400 feet away was not torn off its hinges, and another beyond that point about 150 feet was not even blown open.

A fact which will appear remarkably strange, but is nevertheless true, is that the loss of life from this feeble explosion was fully fifty per cent. greater than would have been the case had it been more violent. This was the case for two reasons: First, because of the light detonation the men on the west side of the main heading did not know that an explosion had occurred, for if they had heard it, all on that side could have escaped. Second, if the explosion had been more violent, the after-damp would not have been so destructive to life also; it would have been much more easily diluted with enough air to make it life-supporting, as not less than 150,000 cubic feet of air was forced into this district each minute from the time of the explosion until the mine was cleared up again.

From the evidence produced at the inquest upon the bodies of the victims of this disaster, it was learned that all the men employed in the vicinity of the gas which exploded had been not only continually cautioned as to the presence of gas on the falls, but were picked men selected on account of their knowledge of safety lamps and the method of using them to examine for gas, for which they were ordered to look always before firing shots. But in spite of all these precautions and care, a great catastrophe occurred through lack of care on the one part and on the other through too much liberty, or rather through the abuse of liberty which it is now known it was unwise to give, because those who received, abused it. This liberty permitted men who worked in the vicinity of the gas, to take their naked lights into the danger marks made by the fire bosses. There was no danger in this of itself, and it gave the men better light for traveling to their work, but it also afforded an opportunity for a man who was reckless enough to lay aside his safety, and use his naked lamp for the sake of getting a better light.

But even such a catastrophe as this was not warning enough in some quarters as it seemed, for in less than six weeks after it occurred we were compelled to prosecute a man for lighting a ciga-

rette right in the heart of a gaseous district of the mine, where nothing but locked safety lamps were permitted to be used. This act so enraged the miners who appreciated the possible result that I very much fear he would have received bodily harm had he not been quietly taken out of the mine and afterwards to jail. As it was, his act was followed by consequences serious enough, for it brought upon good and careful men a dread that, however great the care they themselves took, disaster and death might be brought upon them at any moment by some such reckless person igniting a body of gas through opening a lamp, or by smoking, or some other careless act, criminal under such circumstances.

In my official position I am no doubt expected to make some suggestions which may aid in the prevention of such catastrophes in the future, but I despair of offering anything that would avail under the circumstances. What can we do when among a hundred or more miners there is one who disregards the safety of himself and others, and recklessly violates all laws and rules in the gloomy caverns of the mine, where detection is no easy matter? Clearly, but one thing, invoke the law's extreme penalty upon any such when discovered, provided they have not already caused an explosion or other disaster and have fallen a victim to their own carelessness. As to the particular situation in the Cambria Rolling Mill Mine, the only suggestion I have to offer was made at the time of the investigation of the catastrophe of July 10th, which was to permit no one in the gaseous district to use any except a locked safety lamp, or some other light that would not ignite gas if suddenly come upon. It is understood, of course, that no standing gas is allowed in any part of the mine where it is practicable to remove it. One of the places where its removal is very often impracticable is on a large fall. But men are not expected to work on falls; and when engaged around the edges, if some sudden force pushes the gas down upon them, they have for their protection the safety lamp.

Until a safety lamp is put upon the market which will give something near as good illumination as the ordinary naked light, the men will continue their aversion to the common safety lamp, notwithstanding its almost absolute protection in a gaseous mine, if it is properly used and cared for, and the rules and mining laws are strictly complied with. There is no denying that the type of safety lamp in ordinary use is very unpopular with the miner of to-day, and all too frequently, in order to get a better light than it affords, he throws care and caution to the winds and endangers himself and others.

The following letter explains itself:

Johnstown, Pa., July 23, 1902.

Mr. George T. Robinson, Superintendent,  
Rolling Mill Mine, Cambria Steel Co.:

Dear Sir: We made a careful and searching investigation of that portion of your Rolling Mill mine known as the Klondyke district, in which an explosion of fire-damp occurred on the 10th inst., and found miners open lamps in that part of the mine in which we were informed that safety lamps were required to be used, and were in use at that time. These lamps contained cotton and oil ready for use, and were in such places that would warrant the opinion that they were in use at the time the explosion occurred. And we further find that shots had been fired in close proximity to the rib fall on No. 5 entry where the gas was accumulated which caused said explosion, also at the face of No. 2 room off No. 6 entry right, which is connected by an opening to the fall where explosive gas had been known to your mine officials to exist since the first break or rib falls were made on said No. 5 entry. We also found smokers articles in No. 4 long wall room where safety lamps were being used. The smokers articles were in the pockets of clothing lying on the floor. This you will find by reference to Article 5, Sections 3 and 5 and Rule 15 of the Act of May 15, 1893, to be a violation of the said Act; therefore we recommend that for the future safety of your mine and the persons employed therein, you require your mine foreman and other mine officials to use their utmost endeavor to carry out the provisions of the said Act.

Very respectfully yours,

J. T. EVANS,

Inspector 6th Bit. District.

C. B. ROSS,

Inspector 2d Bit. District.

I. G. ROBY,

Inspector 5th Bit. District.

JOSEPH WILLIAMS,

Inspector 10th Bit. District.

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#### Condition of Mines.

Improvement has been the order of the year in the district. Betterments in haulage, drainage and ventilation of the mines have tended to greater safety and a gain in sanitary condition. Quite a number of mines along the main line of the Pennsylvania Railroad,

between Johnstown and Cresson, which are among the oldest in the district, have been improved at very great expense, with a view to increasing the output of coal. But some operators have erred in neglecting to increase the air supply and make it adequate for the larger number of men necessary to produce the greater tonnage. It should require no argument to prove that as a mine is extended, more power is needed to force sufficient air into it, but this very plain fact seems to have been disregarded under the conditions that have prevailed during the past year or so. There has been a great boom in the coal trade, and a corresponding effort has been made to meet the augmented demand by increasing the capacity of mines, and in some cases doubling it. When this is done, if the haulage is by mule power, twice as many mules are put in, and if by machinery, its capacity is increased accordingly. But the minds of the operators do not appear to grasp the idea that there should be any increase in the ventilating power. They apparently expect it to meet the new demands unassisted, and to properly ventilate workings vastly increased, perhaps twice as large as those which previously taxed its capacity. Of course it need not be said that this policy is the exact opposite of that which should prevail. When an increase in the capacity of a mine is contemplated, the very first step should be to increase the ventilation, the life, as it were, of everything which must operate to produce a greater output. Even the machinery will not yield best results if the men who manage it are not furnished that which enables them to perform their work properly and energetically—namely, pure air and plenty of it. It is true that movements are now on foot in some of the mines mentioned to improve the ventilation, but, as intimated, all other improvements were looked after first.

Mechanical haulage is practically universal in the large mines, but mechanical mining is not much of a success along the Allegheny mountains, as the seam of coal in this district is not well adapted to machines, the Miller, or B seam, in particular, on account of the undulating bottom. The Lemon and C prime are well suited for either Puncher or Chain machines.

The other parts of the district, on the South Fork branches, are all practically new mines, which are well equipped with the most modern appliances. These include the Berwind-White Coal Mining Company's mines at Windber and their shaft at Dunlo, all machine mines except the latter, which produced during the year 3,307,678 tons of coal. The remainder of the mines in the district are located at Johnstown, and along the Somerset and Cambria Branch of the Baltimore and Ohio Railroad, up to Rockwood. All are in very satisfactory condition as regards ventilation, drainage, etc., except a few of the newer and smaller ones, where ventilating plants are now being installed.