

have told them that it would be better to turn them back home than to lower them at a rate of speed that is too fast to be absolutely safe.

The victims of the accident at the Dorrance colliery were William Kanylofski, miner, Peter Kavaloski, laborer, John Pepan laborer, and Bert Van Horn, blacksmith. They were instantly killed by the cage on which they were ascending the shaft being hoisted against the sheave with great force, causing the rope to break, and allowing the cage to fall back with its four victims into the mouth of the shaft where it caught fast, a total wreck. One of the victims was held fast in the wreck dead, and the other three fell down to the bottom of the shaft 1,000 feet below.

The engineer, Abe Price, testified before the coroner's jury that he had received the proper signals that there were men on the Baltimore shaft cage and that he started to hoist and ran his engine at the usual rate of speed, and when the cage neared the top he closed the throttle valve and threw the lever. When he got it just over the center, the back pressure blew open the throttle valve and the reverse lever flew back against him. Before he could get the throttle valve closed again and the brake on, the cage had struck the sheave wheel and the damage was done.

A careful examination was made of the engine and the valves after the accident by John Rhinehiemer and James Love, expert machinists from the Vulcan Iron Works, where the engine was manufactured, and the engines and valves were found to be in good order.

This examination was made in the presence of Superintendent F. E. Zerbey and District Superintendent Joseph Jones and other officials of the Lehigh Valley Coal Company, and myself.

After hearing all the testimony the coroner's jury exonerated Abe Price, the engineer, from all blame.

The engineer, Mr. Price, had had twenty-five years' experience as an engineer, and had run the engine at this shaft since it had been sunk. He never before had any accident, but on the contrary had made a very good record for himself.

The other accident occurred at the Anchinloss mine. At 6:40 A. M. November 2, ten men were instantly killed in No. 1 shaft at this mine while being lowered to their work in the Baltimore seam, 1,065 feet below the surface. Jacob W. Fine, hoisting engineer, was in charge of the machinery at the time. John Mondusky, headman, had given the signal to the engineer to lower the cage and did not discover anything wrong until the ascending cage reached the surface landing at a frightful velocity, going through the tower and taking with it bridge trees and sheave wheel. It did not stop until the crosshead and uprights of the cage had become fastened under

the drum in the drum pit, which resulted in stopping the engines. The descending cage struck the landing fans of the Baltimore seam with terrific force, causing both carriage sills to break, dropping with its load of human freight to a depth of 400 feet into the water, the shaft being filled with water to a depth of 210 feet. Rescuers were immediately sent down No. 2 shaft to the Ross vein crossing through to No. 1. They succeeded in climbing down to the surface of the water to ascertain if any of the men might be living, but no signs of life were found. A hasty examination of the two engines was made by District Machinist Trimble, who reported that the engines were all right in every respect and responded to the operation of the throttle valve and levers.

Preparations were immediately made for the recovery of the bodies of the unfortunate victims. The broken cage of the Baltimore landing was hoisted to the surface and taken out and substituted by billy block and bucket. At 4:30 P. M. three men in my charge were sent down to the surface of the water. Platforms were placed upon the buntons, grappling hooks and ropes were secured and the work of grappling for the bodies was begun an hour later.

The remains were brought out in the following order: Bislen Popelews, miner, John Pisarick, miner, William Ashton, Jr., miner, Joe Novick, miner, Frank Kempa, laborer, Frank Selick, miner, Joe Caushen, miner, John Yellowkofski, miner.

The remains of John Ignatovich, miner, were not discovered until 1:20 P. M. November 12, when they were found caught in the debris between the bottom of the broken cage and the broken pieces of an old mine car.

The cause of the accident is practically unknown. Mr. Fine, the hoisting engineer, claims that he had perfect control of his engines until within 50 or 60 feet of the landing. A minute examination made by Mr. J. M. Easton, master mechanic, Mr. Frank Trimble, district machinist and Mr. John Rhineheimer, Supt. of the Vulcan Iron Works, shows that the condition of the engines was in every respect first class. It is therefore very evident that the responsibility for this accident lies with Mr. Fine, the hoisting engineer. It was caused in my opinion by the double throw of the reverse bar during this trip. In other words, after he had started his load with steam, he threw his reverse bar over, permitting the loaded cage to descend by its own weight to within the distance that he claims he had control of his engines. It appears to me that he must have thrown his bar over again, not realizing that his engine was already running against itself and must have given her steam with the intention of slackening speed to reach the fans, when instead of slackening the speed it was increasing to a tremendous velocity, with the result noted above.

The print herewith shows complete section of shafts, location where carriage struck at Baltimore vein, also where the bodies were found.

### Verdict of the Coroner's Jury

We, the jury, find that John Ignatovitz came to his death by the bottom falling out of the cage at the Auchincloss mine of the D. L. and W. Company in Nanticoke borough and that while descending said shaft November 2d, 1904, at about 6:40 o'clock A. M. when the cage was approaching Baltimore vein in said shaft, the engineer failed to check the speed of said cage and that the cage struck the fans so as to break the bottom of same whereby the said John Ignatovitz and others were precipitated down said shaft and met their death and that the cause of the failure of the engineer to check the cage is unknown to the jury.

And we, the jury, do further say that the death of the aforesaid John Ignatovitz and others might not have occurred in such manner if the D. L. & W. Co. had complied with rule No. 1, article 12, of the Anthracite Mine Laws, which provides that the owners, operator or superintendent shall use every precaution to insure the safety of the workmen in all cases which said D. L. & W. Railroad failed to do, by having engineer Jacob W. Fine constantly on duty for almost fourteen hours when the accident occurred.

The jury further recommends that the day shift engineer should start to work at 6 A. M. instead of 7 A. M. thereby relieving the other engineer before the time of lowering the men into the mines arrives. And the jury is resolved of the opinion that eight hours is sufficient for any engineer to be constantly on duty any one day as a hoisting engineer.

The jury was composed of the following: James O'Donnell, Plymouth, John Reagon, Daniel Powell, William Oldfield, Samuel Powell and T. R. Callery, of Nanticoke.

In view of the circumstances connected with this case, I make the following recommendations: That in shafts where two engineers are employed on constant duty during the twenty-four hours each day, the number be increased to three engineers for the same period, and that their day's work, or shifts be as follows:

The day shift engineer to commence work at 6 o'clock A. M., and work until 1 o'clock P. M., or 7 hours; the second engineer to commence at 12 o'clock A. M., and work until 7 o'clock P. M., or 7 hours; and the third engineer to commence at 6 o'clock P. M., and work until 7 o'clock A. M., or 13 hours. By this arrangement the three engineers will be in the engine-house 27 hours each day, or an average of 9 hours each.