

shaft lined or a limit of number to be hoisted, established and enforced, accidents of this kind would be reduced, if not avoided entirely.

Accidents from being caught in machinery or falls from staging demonstrate the necessity of more careful fencing of fly wheels, etc., and more carefully constructed ladders and staging for oiling and repairing sheaves and other overhead machinery.

Three accidents, no fatalities, are on record, caused by miners failing to give their brother workmen notice of blasting.

From the breaking of windlass rope and cage cable, two fatal accidents are recorded and two non-fatal.

From insecure staging in mines, no fatalities, four accidents.

#### WATER.

On the afternoon of August 29, 1895, at 4 p. m., word reached the Bureau regarding a disaster at Sleepy Hollow and Americus' mines, located at Black Hawk, Gilpin county, Colorado.

Everything possible was done to devise ways and means to stop the rising water and save the lives of some of the men underground. The mine not being equipped with pumps, the buckets were run to full capacity and a crew of men put to work with view of placing pumps in the incline of the Bob Tail. It soon developed that the Bureau had no funds available for paying for the work. Further, that there was no other department of state from which funds could be drawn for this purpose. The work was accordingly stopped, and what had been done paid for by the officers of the Bureau.

A consultation was held with the mine owners affected by the disaster, and it revealed the fact that each was willing individually to do all possible, but owing to misunderstanding and litigation of long standing, no collective action could be gained.

On September 1, a joint meeting of all interested was held in Denver, and after several hours it was agreed that if the Bureau would furnish pumps, equitable arrangements would be made for operating same,

and that each would, in addition, run the buckets in each shaft to full capacity. Prior to the arrival of the Palmer pump, one of the pumps belonging to the Bob Tail company was refitted, lowered to place and put to work, making fair headway in lowering the water. On September 16, the Palmer pump was lowered to place and connected, and proved even better than was expected.

On September 20, the body of Thomas Williams was recovered in the Sleepy Hollow. On September 28, the water was lowered to the 500-foot level of the Sleepy Hollow, and the bodies of Martin Ricona and Stephen Valero were recovered. The body of William Prisk was recovered on October 7, at the 600-foot level. On October 9, the body of Thomas Carbis was recovered at the 600-foot level. The bodies of Nazareno Marriatta, James Harris and Ben Brocklebank were recovered October 10, between the 600 and 700-foot levels, in the ladderway. On the night of October 10, the bodies of Pergher Grovani and Nick Vigus were found at the 700-foot level. And on the night of October 11, the bodies of Obid Prouse and William Thomas were found at the 700-foot level east.

The pumping and hoisting by buckets was continuous until October 17, at which time, through a misunderstanding, or the inability of parties of interest to agree as to division of expense incurred by further pumping, the Palmer pump was removed from the incline and hoisting of the water stopped. Several meetings of the mine owners followed, having in view, not only the recovery of the remaining bodies, but perfecting an amicable arrangement which would be permanent in character and enable all to operate their respective properties. An agreement was finally effected, new machinery ordered, put in place and pumping resumed on November 15. On December 30, 1895, the last two bodies were recovered from the Americus mine, viz.: Olibk Paternoster and Achile Avanyini.

On February 6, 1896, the water having been lowered sufficiently to permit examination, the Commissioner of Mines again went to Black Hawk, and per agreement

there met Prof. P. H. Von Deist, who had been chosen to represent the Sleepy Hollow and insurance companies. In company with S. V. Newall, representing the Americus, the point where the water broke through the bottom of the Americus drift was examined. The opening was six feet long, with an average width of eight inches. The drift was ordered cleaned up and opening enlarged so as to permit entrance to workings below. Ascending to the 390-foot level, the opening was examined through which the water poured into the Sleepy Hollow workings. Accompanied by Prof. Von Deist, the Sleepy Hollow workings were examined.

Word was received on the 9th of February that the workings in the Americus were clear and that an engineer would join in the work and represent the Americus company. The Americus engineer failing to put in an appearance on the 10th, little was done until February 12, when the underground workings of the Americus were surveyed, the same being a joint survey of three, and connection made with Sleepy Hollow and Bob Tail tunnel.

Investigation showed that the managers of both the Americus and Sleepy Hollow mines were aware of the presence of the large body of constantly rising water in adjoining properties. Further, that care was taken to determine the thickness or extent of the pillar of ground between the Americus and Mabee-Fisk workings; that at the conclusion of this determination it was conceded that the pillar was of sufficient strength to safely retain the water in the Mabee-Fisk workings; that the matter was discussed by the miners and they all felt assured the water could not break through the pillar of ground, but that there was a possibility of the water eventually seeping through, and that this would give ample warning of danger.

The managers of the Americus and Sleepy Hollow were positive in their statements of ignorance of any workings underneath or within the end lines of their territory, and evidenced this statement by personal visits to their mines, assuming the same risk as that assumed by the miners.

The opening between the Americus and Sleepy Hollow, which caused the death of twelve men, was made with the knowledge of both companies. The Americus had extended their drift within the end line of the Sleepy Hollow, following what they claimed to be the Blythe vein. The Sleepy Hollow raised their stope and made connection. Whether this connection was made with or without the consent of either or both parties it matters not. Having been made, and being very advantageous to both mines for ventilation and affording a double exit. Inspector John H. Talbot, on July 3, 1895, having visited the property, gave the following order, the same being on record in book 1, page 11, general records of this Bureau:

Central City, July 3, 1895.

HARRY A. LEE,

Commissioner of Mines.

Sir: The following recommendations were made by me to the management of the Sleepy Hollow Company, Central City, Gilpin county, Colorado:

That all loose ground near the ladder-way from the 500-foot level to a point of connection with the Americus mine, be secured; also, that good and safe ladders be placed therein. Said ladder-way to be used as a means of exit from the Sleepy Hollow mine through the Americus to the surface.

(Signed)

JOHN H. TALBOT,

Inspector.

On January 6, 1896, the coroner's jury returned a verdict charging "negligence upon the part of The Sleepy Hollow Mining Company in not providing necessary and efficient means of exit and escape from the mine in case of accident," and "extreme negligence upon the part of The Americus Gold Mining Company."

The preponderance of evidence established the ignorance of the Americus and Sleepy Hollow management as to the presence and extent of the drift and stope run from the Mabee-Fisk 600-foot level, and raised to within four feet of the bottom of the Americus drift. It further established the fact that danger from rising water was appreciated; that steps were taken to determine the actual danger, but owing to ignorance the real danger