THE GAL NOUSTRY

On June 8, 1917, lost his life in the Speculator shaft of the North Butte Mining Company, in company with Peter Sheridan, in an effort to rescue men in the 2,200-foot level who were imprisoned by a mine fire.

Nearest kin: Mrs. Catherine Conroy, wife, Mace Middle, Claremorris, County Mayo, Ireland. Mrs. P. J. Jordan, sister, 419 Watson Avenue, Butte, Montana.

Diploma and gold medal to Peter Sheridan, Butte, Montana.

On June 8, 1917, lost his life in the Speculator shaft of the north Butte Mining Company in company with Michael Conroy, in an effort to rescue men in the 2,200-foot level who were imprisoned by a mine fire.

Nearest kin: Mrs. Sarah Sheridan, wife, The Square, Newtonhamilton, County Armagh, Ireland.

Diploma and gold medal to James D. Moore, Butte, Montana.

On June 8, 1917, lost his life in the Speculator shaft of the North Butte Mining Company, by suffocation from gases from a mine fire, after having directed the construction of a barricade that was responsible for saving the lives of eight miners.

Nearest kin: Mrs. Amelia E. Moore, wife, Sequayah Country Club, Station G, Oakland, Cal.

Diploma and gold medal to Daniel Beondich, Biwabik, Minn.

On February 1, 1919, a fire occurred in the Belgrade mine (iron ore) of the Balkan Mining Company in which one life was lost and the lives of many others were in great danger. Three separate times Beondich ran a motor into the smoke and gases and brought helpless men to places of safety, and later rescued a miner made helpless by the gases from the fire.

Diploma and gold medal to James Collins, Mullins, Idaho.

On November 21, 1919, in company with Jacob Delmarh, was imprisoned for 15½ hours by a cave-in, while engaged in the hazardous work of opening an abandoned raise in the No. 6 Northwest stope in the mine of the Gold Hunter Mining & Smelting Co., in an effort to rescue Peter F. Grant and Emil Sayko, who had been imprisoned by a cave-in in the stope on November 15, 1919. Grant and Sayko were rescued after being entombed 14 days 4½ hours.

Diploma and gold medal to Jacob Delmarh, Mullan, Idaho.

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Use and Abuse of Explosives in Shot Firing

Giving Methods of Shotfiring and the Handling of Detonators and Powder Which Have Been Tried and Found Efficient in a Number of Progressive Mining Operations—Hydraulic Pressure Favored.

By JOHN McNEIL.

T WAS suggested that the subject matter of my paper might be along lines of vocational education in the application of certain modern methods to safeguard life and property in the blasting of coal in gaseous and dusty coal mines. And from a wide experience, I may have something useful to present to you in that connection.

I have chosen for my subject: "Modern Shot-Firing and Transportation, Use and Abuse of Explosives in Gaseous, Dusty Coal Mines."

We shall assume that in dusty coal mines where explosive gas is given off, that the systems of ventilation, the saturation of air and wetting of coal dust are of the latest improved type, that by overcast airbridges and regulators, separate and adequate currents of air are conducted to the interior workings to render harmless whatever gases there may be given off; and that pipe lines with water, under good pressure, are laid well up to the face of the workings throughout the mine to make coal dust wet.

Happily, but few of our western mines generate "fire-damp," and even in those that do, fortunately for us too, it is rarely encountered with such pressure

Abstract of paper presented before the September 1920 meeting of the Rocky Mountain Coal Mining Institute. or volume, as compared with fiery mines in the East, or those, of our experience, in Great Britain. We have present, however, in many of our dry bituminous mines, at altitudes more than a mile above the sea, with a low relative humidity, dangers that lurk in the gloom, of coal dust. So it is our sacred duty to use precautionary measures that will lessen, or prevent an explosion.

In the operation of a few of our western coal mines generating "fire-damp," shot-firing and its regulations have received mature thought and caution to develop to a conclusion a maximum degree of safety to the workman by an installation of the electric system of blasting after every man is out of the mine. And from several years of personal experience in the conduct of an admirable system practiced in the coal mines of the Stag Canon branch of the Phelps-Dodge Corporation at Dawson, New Mexico, I had the data and opportunity to prepare this paper.

Methods of Blasting in the Dawson Mines.

Blasting from the solid is prohibited absolutely in the Dawson mines. The coal seam wherever practicable is undermined by electric chain cutting machines. Pillars are extracted chiefly by pick mining.

The miner drills the holes for blasts, prepares the

