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*PROCEEDINGS OF THE OHIO INSTITUTE  
OF MINING ENGINEERS.*

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YOUNGSTOWN MEETING, MAY 9 AND 10, 1883.

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WEDNESDAY'S PROCEEDINGS.

The Institute met in Youngstown, with headquarters at the Tod House, on Wednesday, May 9, at 9 o'clock A. M., pursuant to the call of the President.

An excursion party was organized at noon, and the members in a body visited the Leadville shaft, three and half miles west of Youngstown, and made an inspection of the mine and the machinery connected therewith.

This shaft, which is 175 feet deep, is sunk on the lower coal of the State series. The coal ranges from 2½ to 5 feet in thickness, and in quality ranks as Mineral Ridge Coal. The bed is sometimes homogeneous and sometimes split in two, the intercalated material being a band of shale from 6 to 18 inches in thickness; this shale in turn being capped with a stratum of black band iron ore from 3 to 10 inches thick.

The coal bed is disposed in a long, narrow and serpentine trough, the main gallery of the mine following the sinuous swamp. The breadth of basin is frequently less than 100 yards, but it sometimes swells out to three times this width. From both sides of the swamp the seam rises rapidly and grows gradually thinner, until it becomes so reduced in height that it cannot be mined with profit to the owners.

The history of this mine is very remarkable. The coal was discovered by boring in 1868, and in the summer of 1869 the shaft was let by contract. The contractors dreading an unusual flow of water, bored a hole seven inches in diameter to the coal, and suspended the steam pump in the shaft on iron rods, lowering the pump as the work of sinking progressed. The contractors lost money, and before the pit had been sunk to a depth of 60 feet they threw up the contract. The company (Messrs. Wicks & Wells, of Youngstown,) now concluded to sink the shaft by day work. They were compelled several times during the course of

sinking to suspend operations for lack of pumping machinery to discharge the ever-increasing streams of water. Pump after pump was added until six No. Six Cameron steam pumps were suspended in the shaft, all of which, at a depth of 100 feet, were overpowered and the mine filled to the mouth with water. At this point a water shaft was started alongside of the main shaft, which was run down 110 feet, and two of the six pumps were transferred to the water shaft, and a large sized pump capable of discharging 2,000 gallons of water per minute was added. The water which came from crevices in the rock was now overpowered and was finally dammed back and securely caulked, reducing the flow fully three-fourths in amount. The shaft was then continued down until coal was met.

From the time work was commenced sinking until coal was struck two and a half years elapsed and \$71,000 were expended on the work and in supplies for sinking. The mine had been in operation shipping coal only a few months when the force of water dammed back in the shaft, burst into the workings through a fall in the roof. The miners were driven out, the pumps were overpowered and the pit, with all the subterranean workings, was again submerged.

In the spring of 1880 the present company (Leadville Coal Company) was organized, who applied an engine of 400-horse power and two bucket pumps 27½ inches in diameter and 6 feet stroke, each pump making ten strokes per minute and capable of discharging 3,500 gallons of water per minute. The mine was pumped dry in November following; work was then commenced on a second outlet or traveling-way, as provided for by the mining laws of the State. This gangway was opened only a few days when, on the 27th of August, 1881, the woodwork covering and surrounding the shaft caught fire by a spark from the smokestack, and was burned to the ground. The miners found safe egress through the traveling-way.

The mining engineers, after examining all matters of interest in and around the mines, returned to Youngstown.

At half-past seven in the evening the Institute met at Excelsior Hall in regular session. President Andrew Roy in the chair.

The following papers were read:

The Order of the Lower Coal Measures, by Prof. Edward Orton.

Mining Surveying Practice, by Mr. R. S. Paul.

Coal Cutting Machinery in Ohio, by Andrew Roy.

A communication addressed to the President by Col. Charles Whittlesey, of Cleveland, containing a brief memoir of Thomas Hutchins, of whom the writer claimed to be the inventor of the present system of surveying the public lands, was also read and ordered to be printed in regular order in the OHIO MINING JOURNAL.

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