sunk, but was unavailable, as they had neither stairways nor hoisting apparatus in position. In compliance with my instructions, they put in suitable guides and a cage, and have made arrangements to attach the rope to the hoisting drum in case of emergency.

The Roanoake Mining Co., Roanoake.

This company has a new enterprise, a good equipment, and rather poor prospects, as they have barely 30 inches of coal. I found their buildings at the pit-head all of wood, though within the limits requiring fire-proof buildings, and that they had no escapement; also that one of their ropes was only 51.8 inch.

After an interview with the company, I consented to let the buildings stand, upon condition that they provide a good force pump and hose, and that they proceed at once with the escape shaft and push it to completion without delay.

They put in a new rope at once, and on my last visit the new shaft, 8½x5½ was down 117 feet. As they were working only one shift upon it, I directed them to double the force, and complete the work with all possible despatch.

VERMILION COUNTY.

The Ellsworth Coal Company.

This company controls large mines, not only near Danville, in this county, but in other parts of the State, and is one of the largest companies in the State. They have three mines in this county, all well laid out, and liberally equipped with improved apparatus. Nos. 1 and 2 both have a volume of air in circulation in excess of the amount required by law, but the workings are so extensive that a good deal of black-damp is thrown off, and there is so much carbonic oxide resulting from the combustion of large quantities of powder, that the quality of the air is very much impaired before it reaches the last of the men. Dividing the air-current into several "splits" is recommended to obviate the difficulty. The traveling way to the escape shaft was found somewhat obstructed, but was cleaned up when attention was called to it. No. 3 mine was found in very bad condition as to ventilation on my first visit. There was air enough at the in-take, but scarcely any at the working faces. Upon taking measurements in the different portions of the mine the leakage was discovered, and repairs of the air-courses were at once instituted, which resulted within thirty days in giving 120 cubic feet of air per man per minute at the working places. All desired improvements were made thoroughly and promptly.

The Grape Creek Coal Company.

This company's mines are well conducted. As a rule there is a standard supply of air, and it is the evident purpose of the company to maintain it. This is the only company in the Third District which proposes to introduce the mining machines. They are now

erecting a powerful compressor for the purpose of testing the economy of machinery. An explosion of fire-damp occurred at the No. 5 shaft of the company, of which the details are given elsewhere. The mine is one of the best in the county or district in plan and equipment, the escape shaft is complete, and a powerful Murphy fan in position. This is another of the large companies of the State.

Michael Kelley's mine at Grape Creek was opened one year ago. His machinery is too light, although the mine being recently opened, the miners were not suffering for air. Their actual supply, however, was only sixty-two cubic feet per man. He had no escapement, and his buildings at the top were wood. I advised him to put in a fan and get the use of his air-shaft for escapement purposes. This was done, and an abundance of air secured.

Phillippi & Tucker, at Blount, were directed to begin the construction of an escapement shaft within ten days.

Samuel Swisher, Pilot township, has just opened a new shaft.

W. A. Hodge, S. and M. France, John W. Woodward, and Chas. Tilton have completed their escapement shafts.

Daniel France was notified to sink escapement, repair timber in hoisting shaft, and put in new ropes and guides. Two months later I found he had only begun shaft and then abandoned it and neglected all the other matters. I gave him notice not to resume operations without complying in all respects with law, under penalty of legal proceedings.

V. Schoek was instructed to renew timbering in his shaft, put in new rope, and sink an escape shaft.

B. G. Wilmoth was directed to replace platform at the top with heavier material, and sink escape shaft, which he promised to do.

Thomas Thomas, Catlin, was also instructed to sink an escapement shaft.

FATAL ACCIDENTS.

No. 1.—August 17, 1883, at Grape Creek mine, Sampson Cotton and Clarence Morrison; married; each leaving a widow, the former three and the latter two children. By an explosion of gas, Cotton was killed instantly, and Morrison died from the effects on the 20th. A full account of this is given elsewhere.

No. 2.—November .., 1883, John Nichols, aged 38 years; married; leaves a widow and three children. Was working under top bench of coal, which fell, killing him instantly.

No. 3.—May 19, 1884. Danville mines. Frank Jones, aged 47, and son George Jones, aged 15. The father leaves a widow and three children. They had blasted one side of top coal and were cutting the other side. After cutting as far as he could reach, he got under to cut further, with his son to shovel from under the coal, when it came down, killing both.