

Dennis Mulligan's mine is another sample of hap-hazzard work, there being no system of entries or regular circulation of air. The works resemble a labyrinth, and at no point could a measurement of the air be taken except at the furnace. I left instructions to have a map of the mine made, and escapement constructed.

The worst of the lot of poorly-worked mines was that of F. Moon. There were no regular roadways, and no circulation of air. The timbering was very much rotted or fallen away, and had not been restored, and the only place of escape had been allowed to close in through neglect. It was certainly one of the most dangerous and shamefully neglected mines in the district. I directed the roadways to be retimbered, a correct map of the workings to be made, the ventilation to be brought up to the legal standard, and an escapement to be constructed before resuming operations.

All the small mines on Lamarsh creek are in poor condition, and with only one place of egress. I notified them all personally or by letter to make the necessary improvements, in compliance with the law.

#### LOGAN COUNTY.

The Lincoln Coal Mining Co., Lincoln, has been in operation over 15 years, and, until this spring, has had no escapement shaft. It is now, however, completed, and communication established with the hoisting shaft. The air in this mine was found very deficient, the supply being hardly sufficient for the mules alone. This state of things was, however, gradually improved under my directions, and on my last visit a fan was ordered, which is doubtless before this in operation, of sufficient capacity to ventilate the works properly.

The Citizens' Coal Mining Co., Lincoln, has a first class equipment, and a new mine, laid out now with double entries, and abundantly ventilated.

The Mt. Pulaski Coal Co. has been in operation only about a year. The seam is irregular, and difficult to work, owing to clay seams and "horsebacks." On this account the shaft was sunk to a lower seam, but it was not considered desirable to work it, and mining is continued in the upper seam. They have a fan, and the outfit and general condition is good.

#### McLEAN COUNTY.

##### THE McLEAN COUNTY COAL COMPANY—BLOOMINGTON.

The extensive mines of this company have been in operation seventeen years. Two seams are being worked, both on the long-wall principle, the upper one being 400 feet, and the lower one 5-1 feet below the surface. An inclined plane connects the two, and the coal from the upper seam is run down to the lower, and all coal is hoisted from the bottom of the shaft. The pit cars are hauled in and out by tail-rope, operated by a 60 horse-power engine, and 25 one-ton cars can be hauled at each trip. The system works

well and is considered an economical method of hauling their very large output. They are producing from 500 to 700 tons per day, and have a capacity for 2,000 tons with their present equipment.

An eight-and-a-half-foot drum at the head of the inclined plane, between the two seams, is operated with double wire ropes to draw up the empty cars, and let down the loaded ones. Each one of the two cables is capable of holding 10 loaded one-ton cars, but only 5 are let down at once. The loads going down heave up the empty cars, and the drum is controlled by a simple lever-brake, so as to stop the loaded cars at will at any point on the incline.

The escapement shaft, recently completed, is 5x10 feet in dimensions, strongly timbered, and provided with stairways, hand-rails and convenient landings from the top to the bottom intersecting both seams. It is doubtless the most complete and costly escapement shaft in the State.

The works are ventilated by a 10-foot fan, which, driven at the rate of 65 revolutions per minute, was found to give 22,656 cubic feet of air; at the rate of 85 revolutions, 23,872 feet. and for 147 revolutions, 37,403 feet per minute. As their working force requires 22,000 feet per minute, the fan is kept at a speed of only 65 revolutions. They can not allow the whole of this current to circulate around the faces, the velocity being too great. About half of it is kept on the roadways, and swinging check-doors turn the air to the working faces at intervals, renewing the freshness of the current.

Mr. Radford, the underground manager, is preparing to split the current, which will further improve the character of the ventilation.

This is a model mine both in its construction, equipment and management, and deserves most favorable mention.

#### MENARD COUNTY.

The mines in this county are in very fair condition. One at Tallula has been abandoned this season.

J. C. Cabanas, Petersburg, has a mine which does not show the best of management, though it has more than the legal amount of air. He had no escapement shaft, but by changing the position of the furnace he was enabled to make use of his air-shaft as a place of egress.

T. F. Lanning, Petersburg. This mine has ventilation largely in excess of the legal requirement. At the upcast the volume was 13,000 feet for 56 men. They are introducing the single entry system here, driving with English brattice cloth until a given section is cut out.

##### THE PETERSBURG COAL COMPANY.

This company has a well appointed mine, employing over 100 men and six mules. Ventilation abundant. The coal is from six to seven feet thick, but it has a very variable top requiring considerable care and expense for timber. A commendable practice in this mine is the driving of a blind entry between each pair of cross