

as at the other mines, 71 feet deep. When visited there were few rooms being worked. The ventilation of this mine is assured by an eight foot Champion fan on top of air shaft.

James Jones, Sup't and Mine Manager.

#### THE GRAPE CREEK COAL AND COKE CO.

This company is operating five mines, located in and around Grape Creek, five miles south of Danville, on a branch of the C. & E. I. R. R. Nos. 1, 2 and 4 are drifts, not likely to last much longer, as the pillars are now being drawn. The ventilation and roadways were found good in each of them.

#### MINE No. 3.

This is a shaft 18 feet deep, sunk at the base of a hill, the workings of which extend nearly one mile into the interior. The ventilation is good, maintained by a furnace, which consumes on an average  $2\frac{1}{2}$  tons of coal daily. The equipment of the mine is good. Double doors have been placed on the main entry at the bottom, to prevent the air from going direct to the furnace, before reaching the men.

John Beattie, Sup't; T. J. Roberts, Mine Manager.

#### MINE No. 5.

This is a shaft 125 feet deep, sunk on the higher lands, and has a good equipment throughout. Ever since the explosion from fire-damp in this mine, in 1883, a fireman examines the mine every morning with a safety lamp, before the men go down, but seldom detects any firedamp. The volume of air passing in this mine measures 31,500 cubic feet per minute, produced by a Champion fan 6 feet in diameter, each side of the mine being aired with separate currents well distributed. There are five mining machines of the Yock pattern operated in this mine, which are fed from a compressor from Port Carbon, Penn., having a steam cylinder 24x36, and air cylinder 22x36. The operator of each machine receives \$2.25, and shovelers \$1.75 per day, and they are expected to mine two rooms 25 feet wide and four feet undercut, which will turn out about 40 tons of coal per day. The loaders receive 40 cents per ton for loading and blasting. Three men are engaged throwing back dirt minings after the machines have finished mining the room, each being paid \$1.50 per day. Six men are employed timbering and laying track in rooms, three of them receive \$2.00 per day, and the others being considered helpers, are paid \$1.50 each.

John Beattie, Sup't; David Watkins, Mine Manager.

#### THE KELLY MINE.

This is a shaft 96 feet deep, located two miles southwest of Grape Creek, on the C. & E. I. R. R. This mine was in poor condition when first visited. The entries were unsafe for travel, requiring much timber, and the traveling road to the escapement shaft was

obstructed. There were no safety catches nor covers on cages, and the air was poorly distributed. On measuring the air at the bottom of the down-cast it was found to be 7,100 cubic feet, which was ample if properly distributed, but on trying to get a measurement at the face, there was not enough to overcome the friction of the instrument, the air having leaked through the stoppings before reaching the men. I notified Mr. Kelly as to what improvements were necessary, and on my third visit found them completed, except safety catches, which will be put on as soon as new cages and stronger guides are put in place, which have been ordered. In the meanwhile the men were obliged to climb the escape shaft. I have since learned by letter from Mr. Kelly that new guides, cages and safety catches are put on, and also double doors at the bottom.

Michael Kelly, Proprietor and Superintendent; John Doughty, Mine Manager.

There are six shafts and one slope, supplying local trade, situated between Catlin, on the Wabash R. R., and Oakwood, on the L. B. & W. R. R., operated by Shock, Hodges, Emmett, France Bros., Woodward, Sr., Woodward, Jr., and Thomas. The mines are ventilated by furnaces on top of shafts, connected by drift from air chambers, but the air was poorly distributed and heavily charged with carbonic acid gas. The operators were notified to improve the ventilation by closing up old rooms, and by keeping the furnaces fired, which had been very much neglected. They were also instructed to place guards around openings. All of them have now secured escapements except V. Shock, who had allowed his shaft to cave in for lack of curbing, prior to my visit, and he is now engaged in opening it. These mines all have sheds, in which are stored from 500 to 1,000 tons of coal during the summer, for which is found a ready sale in the fall. Daniel France's mine has not been worked any during the year, owing to the lack of an escapement and some other improvements.

Phillips and Tucker's and Samuel Swisher's shafts are located ten miles north of Danville, and depend on local trade. The former have finished an escapement, while the latter is sinking one, and has it nearly finished. They were notified to place guards around shaft openings. The ventilation is good in Phillips and Tucker's mine, but poorly conducted in Swisher's. The best of the small mines around Danville is J. E. Lloyd's. He has his mine in splendid order, working by double entry, and with good ventilation, displaying a management throughout that is worthy of imitation by those adjoining.

#### TAZEWELL COUNTY.

This county contains six mines, which have produced 23,779 tons of coal, all from seam No. 5, which averages four feet five inches in thickness. They have good roofs, and very little water to contend with.