

Second Opening.—The second opening is 100 yards from the main shaft, and is also a shaft 10x15 feet in the clear. They had 55 feet of quicksand to sink through in this shaft, and the work was done in the same manner as in the main shaft, but they did not sink so fast. They have a pair of 14x30 link motion engines, with compound brakes, at this shaft. No coal is hoisted—only the workmen and materials for the use of the inside workings. There are two of the largest size steam pumps, of Guild & Garrison's make, of Williamsburg, N. Y., put in here, and one of them is more than sufficient to take out the water. These pumps give entire satisfaction, and only cost \$1,450 each, and the expense of putting them in is very trifling.

The Breaker.—The breaker is a mammoth concern. It is located in a hollow, and for that reason they were obliged to build it very high so as to insure fall enough for their chutes to the railroad. About a million feet of lumber was used in its construction, and the greater part of it is pine, shipped from Williamsport. It has two sets of rolls and six screens, and can make all sizes of coal, or run it all into stove, chestnut and pea coal, according to the demands of the market; and the breaker has a capacity of 800 to 1,000 tons per day.

Outside Improvements.—They have a fan of twenty feet diameter and five feet face, which is driven by an 18x22 link motion 80-horse power engine, and it is run at about fifty revolutions per minute, giving all the ventilation that can be desired. The fan house is built of brick. They have four hoisting engines, 220-horse power, and a 60-horse power breaker engine. The boiler house is built of brick and contains 12 boilers. There is also a machine shop connected with the works, in which there is a 15-horse power engine, which runs a lathe, bolt cutter, the saws in the carpenter shops and a fan for blast in the blacksmith shop. The carpenter shop is large and commodious, and is fitted up with circular and rip saws, and all the modern improvements for dispatching work. The blacksmith shop is also of the first class.

NOTE.—The time consumed to sink through the 46 feet of quicksand in the main shaft was just five weeks; the time required to go through the rock, a distance of 255 feet, including the coal seams, was six months and eleven days; the time in which all this work was done—sinking the two shafts, building the breaker, boiler house, engine house, fan house, shops, office, and the whole thing complete—was just eleven months and two days. John Jermyn, Esq., deserves great credit for the untiring energy he has displayed and the enterprise he has manifested in undertaking and successfully accomplishing this great task, which he did on his own individual responsibility. And this must be my excuse, if any is needed, for this extended notice of his colliery.

No. 13 Shaft.

This shaft was sunk by the Pennsylvania coal company—the sinking being almost all done during 1876. It is located in Lackawanna township, near Moosic. It is 31 feet 6 inches long by 12 feet wide, and about 137 feet deep, from the top of the cribbing to the bottom of the coal seam. The coal is raised 65 feet above the top of the cribbing, making the full depth of the shaft about 202 feet. They have no second opening to this shaft, but expect to make a connection with the Law shaft as soon as possible. No coal was shipped from here during the year.

Jones & Simpson's Slope.

This is new slope, located at Archbald, and owned by Jones, Simpson & Co. The area of the slope is 6x10 feet, and its length is 547 feet. The

ful readiness to comply with all that the law requires, and I am happy to say that W. R. Storrs, esquire, the general agent, as well as the president and directors, always manifest the same disposition. They are all evidently convinced that it is to the interest of the company, as well as for the good of their workingmen, to keep their collieries in their present excellent condition.

The Delaware and Hudson Canal Company, perhaps have done more to improve the ventilation of their collieries during the last three years, than either of the other larger corporations, and they are now entitled to the second place on the list in this respect, thus changing positions with the Pennsylvania Coal Company. Three years ago, their collieries in Carbondale were about as poorly ventilated as it was possible that they could be, but since that time, they have erected three fans there, the third being added last year, to ventilate the five tunnels composing the Coal Brook colliery. Hereafter, there need be no complaint of poor ventilation in the Carbondale collieries, unless the mine bosses fail to conduct the air properly through the workings. There is a very great and agreeable change for the better, and I am very grateful to the superintendents, especially to A. H. Vandling, esquire, for these improvements. There are now only two collieries owned by the Delaware and Hudson Canal Company, in my district, where the ventilation is not satisfactory, the two being the White Oak colliery, in Archbald borough, and the Grassy Island shaft, in Olyphant borough. Neither of these, however, is very bad, nor is either of them good, and I do not expect them to be good until a fan is provided for each.

The Pennsylvania Coal Company have also done considerable, but are more tardy in effecting the necessary improvements than either of the other large companies. One trouble with them is, their persistent clinging to the objectionable, unhealthy, and dangerous system of ventilating collieries successively with the return air passing from one to the other, instead of ventilating each colliery separately with "pure air," as the law requires. It is very fortunate for them that neither of the collieries where this is done is very fiery, or they could not be allowed to work them at all until this evil was remedied. They have extended two of their shafts down to the Marcy vein during the year—No. 4 and No. 11 shafts—and the probability is, that there will be gas enough in this lower vein to oblige them to abandon this dangerous system.

They have some collieries, however, in excellent condition as to ventilation, notably, No. 4, No. 7, No. 8, new No. 9, new No. 10, No. 13, and Law shafts. All their other collieries can be very materially improved, and must be improved before they can be rated as first class, though none of them are very bad. They have erected a new 17.5 feet diameter fan on an air shaft sunk for No. 7 shaft, in Jenkins township, which commenced running October 21, 1879; and another of the same size was put in at the new No. 9 shaft, which commenced running August 2, 1879. These are improvements inaugurated during last year, and were much needed.