

* LUMAGHI'S MINE.

This mine is owned and operated by Octavius Lumaghi, of St. Louis. It is located on the St. Louis, Vandalia and Terre Haute Railroad, on the west $\frac{1}{2}$ of the southeast $\frac{1}{4}$ of section 24, township 3, range 8. The shaft is 165 feet deep. The coal is $6\frac{1}{2}$ feet thick. The mine is ventilated by a furnace, with $4\frac{1}{2}$ feet of grate bar. The entries are 8 to 10 feet in width. The average ventilation is 10,000 cubic feet of air at the intake and returns. There is an average of 30 miners employed during the year. The operator has put in a pair of scales for weighing the coal as it comes out of the mine. The furnace is located at the foot of the escapement shaft. I have served a notice on the owner to have the furnace removed and a fan erected, so that the miners can have a free exit out of the escapement shaft. Zinc works are located near the mine. The coal is run from the mine to the zinc works. The screens used for screening the coal are $\frac{7}{8}$ inches by 12 feet.

Manager, Joseph Lumaghi; Underground Manager, James McKernan.

HEINTZ BLUFF MINE

Is owned and operated by Joseph Wickliffe, and is located on the St. Louis, Vandalia and Terre Haute Railroad, in the east $\frac{1}{2}$ of the southeast $\frac{1}{4}$ of section 27, township 3, range 8. The shaft is 160 feet deep. Zinc works are connected with the mine. There is an average of 60 miners employed during the year. The mine is ventilated by a furnace, $\frac{4}{8}$ feet in width of grate bar. Furnace is located at the foot of air shaft, sunk for escapement shaft. Notice has been served on the owners to have the furnace removed. There are no scales for weighing the coal. Suit was commenced against the company, and the case was taken to the Appellate Court. The screens are 1 inch by 12 feet; hoisting engine 12x24, second motion; drum, 5 feet; rope $1\frac{1}{8}$ inches. The Lufketter safety catch is used on the cages, which is the most effective catch used in the district.

Manager, Howard Wickliffe; Underground Manager, Richard Lindley.

CANTEEN COAL AND MINING Co.

This shaft is located on the St. Louis, Vandalia and Terre Haute Railroad, in the southeast $\frac{1}{4}$ of section 26, township 3, range 8. The shaft is 177 feet deep. The seam will average 6 feet 8 inches. They employ on an average 60 miners. The mine is worked on the single-entry plan—the system of bad ventilation and wasteful mining. The mine is ventilated by a furnace at the foot of the escapement shaft. I have served a notice on the company to have the furnace removed, and place a fan at the escapement shaft. There are no scales for weighing the coal at this mine. Suit was commenced against the company, and the case was taken to the Appellate Court. Hoisting engine 10x24; drum, 6 feet; rope, 1 inch; screens, 1 inch by 12 feet.

Manager, George Gerding; Underground Manager, Conrad Ambrosius.

THE CONFIDENCE COAL AND MINING Co.

This shaft is located on the St. Louis, Vandalia and Terre Haute Railroad, in the northeast $\frac{1}{4}$ of section 26, township 3, range 8. The shaft is 216 feet deep. The seam of coal will run from 6 to 7 feet. The mining is done by machinery. The Harrison coal cutting machines are used, an average of 5 cutting machines being used during the year. A Norwalk compressor is used for compressing the air, 20x24; air reservoir, 20'x32'; two boilers, 44 inches by 32 feet; hoisting engine 14x40, second motion; drum, 10 feet; rope $1\frac{1}{2}$ inches. This company has removed the furnace at foot of escapement shaft, and erected a 10x3 fan at the side of escapement shaft for ventilating the mine. The average number of miners is 50.

Manager, Jule Weisenburg; Underground Manager, Felix Smith.

BROOKSIDE COAL AND COKE COMPANY.

This shaft is located within the Village of Brookside, on the line of the St. Louis, Vandalia and Terre Haute Railroad. The shaft is 298 feet deep and the coal has an average thickness of 5 feet. This company is just finishing an escapement shaft at which a 4 foot Murphy fan will be located for ventilating purposes. The hoisting engine is 12x28. The drum $6\frac{1}{2}$ feet; ropes $1\frac{1}{2}$ inches; two boilers each 36'x28'. The screens are $1\frac{1}{2}$ inches by 12 feet. This company commenced sinking May 12, 1880, and reached the coal December 13, 1880, passing through two small seams of coal. The seam of coal resembles No. 7 of the general strata of the State, being of the same quality as Trenton coal. It is a free-burning, white ash coal, very free from pyrites of iron, making very little smoke or clinker in burning. After having had several analyses made of the coal, the company last year concluded to put up coke ovens in order to utilize the slack and fine coal. For this purpose six ovens, 8'x32', were constructed, and the slack, after being washed, was placed in the ovens to coke. After several attempts it was found that the fire clay from the undermining washed with the slack in the ordinary manner caused a coating which prevented the particles of coal from running together. This evil was corrected by additional cleaning machinery, and they finally produced a coke which analyzed as follows:

Fixed carbon.....	87.10
Moisture.....	.49
Ash.....	11.32
Sulphur.....	.69
Phosphorous.....	.29
Volatile matter.....	.11
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	100.00

This was 96-hour coke. Subsequent tests of 48 and 72-hour coke resulted in producing a coke good enough to satisfy the demand from the malsters, blacksmiths, foundries and pressed brick works of St. Louis, and for which heretofore Connelsville, Pa., coke has been exclusively used. Messrs. Hatter & Riggs, chemists of Washington University, from analysis made by them, claim that Brookside coke