

* 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.

CANTEN 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 $1\frac{1}{8}$ 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 $1\frac{1}{8}$ inches; two boilers each 36'x28'. The screens are $1\frac{1}{4}$ 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

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

at 10 per cent. less cost, is equal to Connelsville, Pa., coke for smelting purposes. The freight on coke by rail or river from Pennsylvania to St. Louis is greater than the cost of the coke from the Brookside seam of coal laid down in St. Louis, and this difference of cost, and, in fact, the cheap iron produced in Alabama, compels the smelters of Missouri ore to look for a cheaper coke. There is no doubt that the Brookside coke will be extensively used in the future.

Wm. Freaudanan, Manager; John Evans, Underground Manager.

TROY COAL AND MINING COMPANY.

This shaft is located on the St. Louis, Vandalia and Terre Haute Railroad, adjoining the corporate limits of the village of Troy. This is a new colliery, the shaft having been sunk within the last year. The works will be started on the double-entry plan, and the coal will be mined with coal cutting machines. A Norwalk compressor has been erected and five Harrison coal cutting machines will be used during the year. The shaft is 278 feet deep, coal averaging 5 feet.

Manager, A. D. Donk; Underground Manager, Richard Dingle.

WOLF & BROS. COAL MINE.

This mine is located in the corporate limits of the village of Edwardsville and is connected by coal tracks with the Wabash, St. Louis and Pacific and Toledo, Cincinnati and St. Louis Railroads. The shaft is 217 feet deep. The coal has an average thickness of 5 feet 6 inches. The coal is hoisted by a single engine 10x22, second motion. Drum, 5 feet; rope, 1 inch; screens, 1 inch by 10 feet; and for weighing the coal top scales are used. This company has sunk an escapement shaft during the year. The ventilation of the mine at present is by steam jet; the company intends, however, putting in a ventilating fan. The works are laid off on double and single entry plan.

Manager, Otto Wolf; Underground Manager, Joseph Schawyer.

FRANK SHUMACH'S MINE.

This mine is located within the city of Edwardsville, and on the spur of the Wabash, St. Louis and Pacific Railroad leading to the center of the city. The shaft is 136 feet deep. The coal has an average thickness of 5½ feet. The coal is worked by pillar and room and single-entry. There is an average of 20 miners employed during the year. The operator is at present sinking a new shaft. The old shaft is about worked out. The new shaft will be opened up on double-entry and the coal worked in better shape.

WORDEN COAL AND MINING COMPANY.

This mine is situated on the Wabash, St. Louis and Pacific Railroad, adjoining the village of Worden. The shaft is 270 feet deep, the coal averaging 6 feet 10 inches in thickness. Top scales are used for weighing the coal. The company works an average of

70 miners. Hoisting engine, 10x20; boiler, 42 inches by 20 feet; drum, 6 feet; rope, 1 inch; screens, ¾ inch by 12 feet. The company has put up during the year a 10x3 inch ventilating fan.

Manager, H. H. Luckner; Underground Manager, John Ax.

WABASH COAL AND MINING COMPANY.

This shaft is situated on the Wabash, St. Louis and Pacific Railroad, one-half mile east of Worden. The shaft is 175 feet deep. The coal will average 7 feet in thickness. The company works on an average 25 miners. The hoisting engine is double, 10x18, cylinders standing at an angle of 45 degrees. Hoisting drum, 5 feet; rope, 1¼ inches; one boiler, 42 inches by 22 feet; screen, 1 inch by 10 feet. Top scale for weighing the coal. This company has stopped mining since July 1, 1834. There was an escapement shaft started, but is now abandoned.

Manager, Robt. Zesch.

MCDONALD COAL AND MINING COMPANY.

This shaft is situated on the Wabash, St. Louis & Pacific Railroad, one mile east of Worden. The shaft is 300 feet deep. The coal will average 7 feet in thickness. This is a new mine. The company worked on an average 20 miners last year. Hoisting engine is single, 14x28; drum, 7 feet and rope 1½ inch. Top scales are used for weighing the coal. Screens, 1 inch by 12 feet. An escapement shaft has been sunk during the year and a 10x3 feet ventilating fan put up. This company is experimenting with a coal cutting machine, the invention of Dr. McDonald, the manager of the mine.

AUBURN COAL AND TILE COMPANY. SANGAMON

This shaft is located within the corporate limits of the village of Auburn, on the line of the Chicago, Alton and St. Louis Railroad. The depth of the shaft is 268 feet, the coal having an average thickness of 6½ feet. The mine is worked by pillar and room, and double entries. The company has just finished an escapement shaft. The shaft is at present ventilated by a furnace, though it is the intention of the company to erect a fan at the escapement shaft. The coal is hoisted by a pair of double engines, on second motion; the engines are 10x16, geared 5 to 1. The hoisting drum is 5 feet in diameter, one inch steel ropes are used for hoisting.

Manager, H. Dawson, Jr.; P. M. Yoakley, Underground Manager.

WABASH COAL AND MINING COMPANY.

Shaft No. 1 is located one mile south of the city of Springfield, at the intersection of the Wabash, St. Louis and Pacific Railroad and the Chicago, Alton and St. Louis Railroad. The shaft is 250 feet deep, the coal averaging 5½ feet in thickness. This is one of the oldest mines in Sangamon county. The working face of the rooms is nearly a mile from the bottom of the shaft. The coal is hauled to the shaft bottom by mules, which is very expensive and reduces the profits of the company. Machinery ought to be introduced for