

bringing the coal from the face of the workings to the shaft. The seam of coal is well situated for the introduction of the tail rope or endless rope system of hauling, which would reduce the price of getting the coal to the shaft fully one-third. The company employs on an average 75 miners. The coal is hoisted by double engines, on the second motion. The mine is ventilated by a furnace 5 feet in width of grate bar. This company sunk a hoisting shaft one half mile west of the old shaft, to be used as an escapement shaft. There is also a passage way between the main shaft and the Black Diamond mine adjoining.

T. P. Mowitt, Manager; Thos. Reid, Underground Manager.

BLACK DIAMOND MINE.

This mine is located about three-quarters of a mile south of the corporate limits of the city of Springfield, on the line of the Wabash, St. Louis and Pacific Railroad. It is owned and operated by Speed Butler & Co. The shaft is 250 feet deep, the coal averaging 5½ feet. A drain tile manufactory is connected with the mines. The company employ on an average, during the year, 75 miners. The mine is ventilated by a 10-foot fan. The works are all opened on the double-entry plan. The coal is hoisted by a pair of double engines, on the second motion; the engines are 10x16, geared 5 to 1. The hoisting drum is 6 feet in diameter; the ropes 1¼ inch; two boilers, each 48 inches by 20 feet. There is no escapement shaft sunk at this mine; there is an underground connection with the Wabash Coal Company's mine for an escapement. There has been a great deal of litigation between this company and the Wabash Coal Company in regard to the passage way being kept open. The Wabash Company claim that the other party had no right to open a passage. Speed Butler maintains that the Wabash Company worked over their line, thereby creating an escapement for his shaft. On May 14, 1884, I visited the Butler shaft and found the passage way had fallen in. I applied to Judge Zane for an injunction to stop both mines until the passage way was cleaned up and retimbered; the Judge granted the injunction; the passage way was opened, but not as the mining law contemplates. The Judge allowed the mines to work again. I have instructed Thos. Gray, the underground manager, to go through the travelling way every day until there can be some decision given as to who is responsible for keeping the travelling way open.

BARCLAY COAL AND MINING COMPANY.

This shaft is located within the corporate limits of the village of Barclay, on the line of the Springfield branch of the Illinois Central Railroad. The shaft is 240 feet deep and the coal 5½ feet thick. The company employs on an average 100 miners. The mine is ventilated by a 6-foot Murphy fan. The escapement shaft is located about quarter of a mile from the hoisting shaft. Ladders are put in every twenty feet. The coal is hoisted by a single engine 12x24; two boilers, 42 inches by 26 feet; hoisting drum, 6 feet; rope, 1½ inch. The mine is worked on the double-entry plan; a 4-foot pillar is left between the rooms.

Manager, Wm. Graham.

SPRINGFIELD CO-OPERATIVE COAL COMPANY.

This shaft is located near the northern limits of the city of Springfield, on the line of the Chicago, Alton and St. Louis Railroad; the shaft is 250 feet deep; the coal has an average thickness of 5½ feet. The company employs on an average 50 miners. The works are opened on the double-entry plan. The mine is ventilated by a fan 8 feet in diameter. The air is split. This mine is connected into the old north shaft for an escapement. The coal is hoisted by double engines, 10x22, second motion. Three boilers are used, two cylinder each, 36"x20", and one two-flue, 42"x24". There is a steam brake attached to the hoisting drum of the engine which is a very useful invention in case of overwinding.

Manager, George Neilson.

WILMINGTON AND SPRINGFIELD COAL COMPANY.

This shaft is located near the northern limits of the city of Springfield, on the line of the Chicago, Alton and St. Louis Railroad. The shaft is 250 feet deep, the coal averaging 5½ feet in thickness. The company employs on an average 100 miners. The mine is ventilated by a fan 8 feet in diameter. Coal is run direct from the shaft to the Springfield Iron works. This mine was opened by single entry which causes a great deal of trouble in ventilating the working faces; connection is made into the Springfield Co-operative shaft for escapement. The mine is worked a long distance from the bottom and the coal is hauled out by mules where machinery ought to be used. The coal is hoisted by a single engine 12x20; two boilers are used, 38"x28".

Manager, Harris Hickox; Underground Manager, Edward Edwards.

RIVERTON COAL AND MINING COMPANY.

Shaft No. 1, is located about six miles northeast of Springfield, on the line of the Wabash, St. Louis and Pacific Railroad. The shaft is 200 feet deep; the average thickness of the coal is 6 feet. The company employs on an average 150 miners. The mine is worked on the double-entry plan and the air is split for each set of entries. A furnace is used for ventilation, having 5 feet width of grate bar. This is one of the largest mines in Sangamon county; the escapement shaft is located a quarter of a mile east of the main shaft; the coal is hoisted by twin engines, on the second motion, geared 5 to 1. There are two boilers, each 42"x26½"; the screens are ½ inch; no nut coal is made. The company owns a store in connection with the mine, and the manager stated that it was not made compulsory for the miners to trade there. This company has sunk a new shaft on the Illinois Central, shaft No. 2. Everything has been fitted up in first class style, double engines, first motion, and a Murphy fan for ventilation. The company are working each way from No. 1 and 2 for escapement shaft for No. 2.

Manager, Robert Jess; Underground Manager, Joseph Hickey.

WABASH COAL AND MINING COMPANY.

Shaft No. 2 is located within the limits of the village of Dawson, on the line of the Wabash, St. Louis and Pacific Railroad. The

shaft is 250 feet deep, coal averaging $5\frac{1}{2}$ feet thick. The mine is ventilated by an 8-foot Murphy fan, located on the air chamber at the hoisting shaft. The company works on an average 60 miners. The escapement shaft is located about 200 feet west of the hoisting shaft. The coal is hoisted by twin engines, 12x24, first motion, two boilers, 44 inches by 26 feet. The screens are $1\frac{1}{8}$ inches. The mine is opened on the double-entry plan. Carburetted hydrogen gas is sometimes found in the face of the entries.

T. P. Mowett, Manager.

CAPITAL CO-OPERATIVE COAL COMPANY.

This shaft is located just outside the corporate limits of the city of Springfield, at the junction of the Wabash, St. Louis and Pacific Railroad and the Ohio and Mississippi Railroad. The shaft is 242 feet deep, the coal $5\frac{1}{2}$ feet thick. The mine is opened on the double-entry plan. A 5-foot furnace is used for ventilation. The coal is hoisted by double engines, 10x20, on the second motion. There are two boilers 42 inches by 18 feet. An average of 60 miners are employed.

James Walsh, Manager; James Ryan, Underground Manager.

SANGAMON COAL AND MINING COMPANY.

Shaft No. 1 is located at the intersection of the Wabash, St. Louis and Pacific and the Illinois Central Railroads. The shaft is 240 feet deep, coal averaging $5\frac{1}{2}$ feet in thickness. The mine is worked by pillar and room and double entries. There is a 9-foot fan located at the escapement shaft. About 90 miners are employed on an average during the year. The coal is hoisted by a single engine 14x28; hoisting drum is 7 feet in diameter; rope, $1\frac{1}{8}$ inches; 3 boilers, each 42 inches by 22 feet. There are no screens used at the mine.

Shaft No. 2 is located about 1 mile east of the corporate limits of the city of Springfield, on the Springfield branch of the Illinois Central. The shaft is 245 feet in depth and the coal is $5\frac{1}{2}$ feet thick. The mine is ventilated by a 9-foot fan, set at the bottom of the hoisting shaft, the air chamber for the fan being 3x7. The mine is opened by 3 main entries, one intake and two returns. The air is split for each set of entries. Overcasts are put in the return entries, taking the return air over the intake, each set of butt entries getting their own air. Under this system of ventilation very few doors are used in the mine. An escapement shaft has just been finished at this mine; it was excavated from below upwards at an angle of 70 degrees. A fan will be erected at the escapement shaft, to assist the fan below at the bottom of the hoisting shaft. The fan will be run by rope gearing from the engine connected with the revolving screens. The coal is hoisted by twin engines 16x30. The rope drums are conical diameters $4\frac{1}{2}$ and $6\frac{1}{2}$ feet; rope $1\frac{1}{8}$ inches. An apparatus is arranged on each side of the main screens, one for hoisting the screenings to the revolving screen, another to elevate the dead slack and waste culm as it comes from the mine. The apparatus is worked by friction gearing. The company employs on an average 150 miners daily during the year.

There are four boilers, each 42 inches by 22 feet. The screens are $\frac{5}{8}$ inch in the mesh by 8 feet long. This is one of the largest mines in Sangamon county.

Underground Manager, Joseph Haun; Manager, No. 2, Thos. Jones.

WEST END MINE.

This shaft is located adjoining the limits of the corporation of the city of Springfield, on the west side, and on the line of the Ohio and Mississippi Railroad. The shaft is 150 feet deep, the coal having an average thickness of $5\frac{1}{2}$ feet. The mine is worked on the double-entry plan. The mine is ventilated by a furnace having 8 feet of grate bars. The escapement shaft is 8x16, with ladders from top to bottom. The air is divided into four splits. There are 125 miners employed daily during the year. The coal is hoisted by a single engine, 16x30, geared 3 to 1. There are 2 boilers, each 42 inches by 22 feet. The works are getting too far from the shaft to use mule power economically. The tail rope or endless rope system ought to be used for hauling that distance.

Manager, Robt. Green.

PLEASANT PLAINS COAL AND MINING COMPANY.

This shaft is located on the east side of the village of Pleasant Plains, on the line of the Ohio and Mississippi Railroad. The shaft is 126 feet deep, the coal averaging $5\frac{1}{2}$ feet in thickness. The mine is worked by pillar and room and single-entry. The company has not worked over 12 miners during the present year. There is an escapement shaft. This mine has been very badly managed; the ventilation is by furnace, but half of the time it is not kept burning. The mine has been ruined by having the workings full of black-damp. The shaft has recently changed hands; the new company is putting things into a better shape. The coal is hoisted by a single engine 14x30. One boiler is used for getting up steam, 48 inches by 20 feet.

Manager, J. L. Gause.

DECATUR COAL COMPANY. *MACON*

This shaft is located within the corporate limits of the city of Decatur, on the line of the Wabash, St. Louis and Pacific Railroad, and the Indianapolis, Bloomington and Western Railroad. The shaft is 612 feet deep, the coal averaging 4 feet 4 inches thick. The coal is worked by the long-wall system. The company employs on an average 130 miners. The mine is ventilated by a 7-foot fan. Small quantities of fire-damp are found in the breaks next to the face of the workings. This is a very fine seam of coal for long-wall working, having a good slate roof and fire clay bottom. Coal is shipped on both roads. The coal is hoisted by twin engines, on first motion; engines, 16x24; four boilers are used to get up steam, each 48 inches by 18 feet. The hoisting drum is 8 feet in diameter; ropes $1\frac{1}{8}$ inch in diameter. The company is at present sinking another hoisting shaft, near the depot of the Illinois Midland Railroad and at the intersection of the Illinois Central, the new shaft to be used as an escapement shaft.

Manager, Mark Moran.