SCRANTON, PA., *March 24, 1884.*

The following improvements have been made in coal department of the Lackawanna Iron and Coal Company during the year 1883:

At the Pine Brook colliery there has been driven a rock tunnel seven by sixteen feet, for a distance of five hundred feet at an angle of ten degrees; same has been driven from No. 4, or second, below Clark to Clark vein, cutting one vein of coal about midway. The object of this tunnel being to run all Clark vein coal to one common foot located in second vein below Clark. The tunnel or plane will be provided with double track for letting or lowering down coal in the ordinary way. Our connections have been made with old workings of Clark vein, hence with mule-way or man-way. The man-way upon the surface has been extended towards the breaker some distance by building side walls, and covering with large and substantial flag-stones, making a very complete and easy man-way from lower vein to surface. Above constitutes about all the important improvements made in coal department during year 1883.

R. G. BROOKS, *Superintendent.*

PATRICK BLEWITT, Esq.,
Inspector of Mines:

DEAR SIR: The New York, Susquehanna and Western Railroad Company have in the Lackawanna valley about seven and one half miles of railroad completed and in active operation, and about three and one half miles now under construction. When finished shipments will be made over this road from nine different collieries. Of these, the Greenwood and Sibley collieries have been for a long time in operation. The Dunn is a new operation completed during the last year at a cost of $100,000, and is now rapidly increasing its out-put. Jermyn No. 6, also completed during the last year, is a shaft colliery, having a shaft two hundred and twenty feet deep, cutting two veins of coal, and a very fine, large breaker and commodious outbuildings have also been erected. The cost of this plant is about $120,000. The Winton colliery is now being rapidly developed by a drift of about two thousand feet in length, one thousand four hundred feet of which have already been driven. The breaker foundations have been erected, and the timber for the breaker has been framed, and is ready to be raised. The Dolph colliery is now nearly ready for shipping coal. The plant consists of a very fine breaker and machinery, with suitable out-buildings, and the mine will be operated by a drift and inside gravity plain. The cost of development will be about $80,000.

The Spencer colliery is partly a new operation, and being rapidly completed. The breaker has been framed and raised, and the machinery is now being put in. The mine opening consists of a shaft which has been sunk through four seams of coal—three of which are so far developed as to insure an out-put of eight hundred tons per day from the very start. Coal will doubtless be shipped from this colliery about the 1st of May. The

cept what were necessary for development of territory to supply their quota of coal to the market.

Pennsylvania Coal Company.

This company have sunk a new shaft in Dunmore borough on what is known as the Gilbert Dunning tract, called No. 1 shaft. Commenced sinking in rock on November 26, 1885, and finished on November 18, 1886. Shaft is 171¾ feet from surface to bottom of first Dunmore vein, 218 5/12 feet to bottom of second Dunmore vein, 272⅙ feet to bottom of lower Dunmore vein, and 289⅙ feet to bottom of sump. No coal has been shipped yet. They are opening up the mine and preparing to build a large breaker in connection with the shaft 600 feet east of it. No coal will be shipped until the latter end of year.

Spencer's Shaft.

Spencer Bros. have extended their underground slope 1,280 feet; angle of pitch, 3°; sectional area, 90 square feet.

Richmond Shaft.

This shaft has been sunk 60 feet to a lower vein; size of shaft, 12×24 feet. They are opening out the mines at present.

Pancoast Shaft.

The company sunk a new slope 550 feet long in mines on a pitch or angle of 6°; also had a new tunnel driven 128 feet long in rock from top to bottom split of 14-foot, or G, vein; sectional area of tunnel, 60 square feet.

Marshwood Colliery.

This is a new colliery, owned and operated by the Moosic Mountain Coal Company. It is located in Olyphant borough, and 3 miles southeast of Lackawanna river. It consists of one drift driven into crop of first Dunmore vein; slope sunk across the measures, cutting the second Dunmore vein, and to the bottom of the lower Dunmore vein. It is 292 feet long; angle of pitch, 19° 25″; sectional area, 8×12 feet=96 square feet. The breaker is not finished yet. It will have a capacity of 1,000 tons of coal per day. There are eight boilers in place, also one pair of hoisting engines and one breaker engine. The company have also built several houses for their employés. From present appearances, it is intended for a first-class colliery. John R. Davis, general manager; B. F. Fillmore, assistant; James R. Wilson, mine foreman. The company will be ready to ship coal as soon as the main outside track is finished to the colliery. They are sinking an air shaft 12×16 feet to cut all the veins of coal.

Capouse Shaft.

A new plane has been graded at an angle of 15° and 450 feet long.

Buffalo Mines.—Built a three-foot gauge track railroad from mines to Jefferson branch of N. Y., L. E. & W. R. R., a distance of two and one-third miles. Coal is hauled by a small locomotive. A new hoisting engine, new main and pony rolls and screens were also put in, and the breaker and machinery given a thorough overhauling.

Belmont Mines.—A new water-level tunnel; was opened to coal headways, and airways were driven to cut off the distance in haulage.

Edgerton No. 2 was opened by a water-level tunnel. It is located about two miles northeast of breaker. Coal is hauled by a small locomotive on a three-foot gauge track.

Eaton Tunnel.—Drove a heading to surface for manway and ventilation; size of opening, 6′x9′=54 feet.

Eaton Shaft.—Sunk a shaft from surface to the present working or "Archbald" vein 162 feet deep; size of opening, 10′x20′=120 feet area.

Jermyn No. 3.—Sinking slope; it is down 700 feet; opening 14′x7′=98 feet area; driven on a grade of one in three feet; in place, six new boilers, one pair of hoisting engines, 10′x10′, one fan engine, 12″x12″, and one pump, and are also building new breaker.

Mount Pleasant Mines.—Sinking a second opening from G, or Big vein, to Clark.

Filer's Slope, now Mount Jessup.—Have driven slope in coal about 1,000 feet in length.

Lackawanna Shaft.—Have placed an endless wire rope about 2,000 feet long in main gangway for haulage; it works satisfactorily; it is cheaper and better than horses or mules.

Pancoast Shaft.—Have put in a new set of boilers; have put in Zeigler's patent slate-pickers; have graded slope to a uniform grade for about 1,000 feet; they are using the electric arc light at this colliery and it gives general satisfaction.

Rushbrook Shaft.—Have erected a new blacksmith shop, 20′x20′, a new powder house, 10′x10′, a new barn, 14′x20′; have placed in mine a No. 10 Knowles pump, sunk a second opening to top vein, and have driven headings in top vein going east 350 feet, and in the same vein going west 300 feet; the east heading in bottom vein has been driven 400 feet, and in the same vein going west 125 feet.

Spencer Shaft.—Are driving slope in coal northwest of shaft; in middle vein they are down about 800 feet.

Hon. Thomas Waddell is at present opening up a new mine in Winton borough.

Note.—The Peakville Coal Company's colliery was idle during the year and did not ship any coal.

The Rushbrook colliery did not ship any coal during 1888.

Bridge colliery was sold and abandoned August 16, 1888.

Shaft No. 2, Penn. Coal Company, located in Dunmore, was abandoned September 1, 1888.

I wish to call your attention to Bunker Hill breaker; while the breaker itself is situated in the Second anthracite district, the coal is prepared and accounted for in the Third or McDonald's district. The breaker for the present is used only to screen coal that has already been prepared in excess of the market's demands, the same coal having already been prepared at the several breakers near the mines and shipped to the company's dumping grounds near this breaker.

Yours very respectfully,

JAMES YOUNG,
Mine Superintendent.

Dolph Tunnel.—Inside slope or dip being driven to crop at south end of property, and operated by a pair of hoisting engines located on surface; rope through bore-hole. Opening being driven from crop, up to meet said slope. Electricity is used for signaling.

Marshwood Slope and Tunnel.—Additional traveling way made on eastern crop of vein for men and mules, thus avoiding the use of the air shaft by miners and laborers and the slope for mules. No. 3 drift in Upper Dunmore gangway and airway driven in 350′. No. 4 drift in Upper Dunmore gangway and airway driven in 125′. Pennsylvania slope, in new territory, acquired from Pennsylvania Coal Company, sunk 300′.

Jones, Simpson & Co.—Set new boilers at breaker.

Pancoast Shaft.—Continued tunneling vein towards old slope workings which were filled with water, when 80′ from old workings, water was tapped from two headings with 2⅝″ holes and is now being pumped out.

Rushbrook Mines.—Have graded and laid 1¼ miles of track, 3′ gauge, with 40 pounds railroad iron; built new boiler house 21′×55′, engine house 27′×34′, and fan house 14′×31′, with tower 13′×16′ and 36′ high.

Spencer's Shaft.—Driving slope through strata from middle to bottom vein on an incline of 15′ to 100′ horizontal.

There were no improvements reported from any of the other collieries except what were necessary to provide for keeping the workings in such a condition as to provide for the quantity of coal required.

DELAWARE AND HUDSON COMPANY

The workings of the Marvine have been connected with Marvine No. 2 shaft by driving 1,300 feet of narrow work. No. 2 shaft has been concreted to a depth of 70 feet from the surface, and concrete buntons put in place.

Leggitts Creek.—A rock plane was driven from the Rock vein to the Fourteen Foot vein, a distance of 350 feet.

A Jeffries pulverizer has been installed to crush refuse from breaker and flush into the mine workings.

A new engine 14x16 and scraper line has been installed to feed culm from the dump into washery.

Dickson.—A rock plane 450 feet long has been driven from Dunmore No. 4 to Dunmore No. 3 vein.

During the year an addition measuring 24x50 feet was made to the breaker. New towers were erected over the main hoisting and man shafts.

Von Storch.—A 6-inch bore hole 260 feet in depth was drilled into the workings of the Clark vein. This will be used for flushing purposes.

Von Storch Washery.—Two 78-inch locomotive type boilers, and a 14 inch x 16 inch engine and conveyor line were installed during the year.

The ventilation and drainage of the mines are good.

SCRANTON COAL COMPANY

Mines are well ventilated, roads are good and properly drained.

PRICE-PANCOAST COAL COMPANY

A new air shaft, 10x14 and 300 feet deep, is being sunk. On this shaft a 20 foot diameter Guibal fan will be erected. This arrangement will not only provide and increase quantity of air all around, but it will also allow the ventilation of the Dunmore veins being duplicated.

A tail rope system of haulage has been installed in the Diamond vein workings. A similar system of haulage is being installed in the Dunmore vein workings.

A new gravity plane 600 feet long has been made in No. 3 vein, and another 350 feet in the Clark vein.

In the Diamond vein a slope has been sunk 800 feet, and a 40 horse-power engine installed to hoist the coal.

The condition of the workings as to ventilation and drainage is good.

PENNSYLVANIA COAL COMPANY

No. 5 Shaft.—Ventilation and drainage good.

GREEN RIDGE COAL COMPANY

Ventilation and drainage good.

The remaining mines in the district are ventilated by natural means. The employes work for the most part in scattered groups. Good ventilation is provided under the circumstances.

A. D. AND F. M. SPENCER

No. 1 Shaft.—Abandoned April 1.

not only acts as a second opening, but also improves the ventilation. An air bridge or air "cross over" was cut in the rock in the west tunnel section in the Dunmore No. 1 vein, 6 by 12 feet by 37 feet, which gives an additional split of air in that section.

Mount Pleasant Colliery.—A rock plane from the 3rd or China vein to No. 1 Dunmore vein has been driven and fully equipped.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—Installed one steam duplex pump, 28 by 14 by 24 feet in No. 3 vein to pump water to surface. Steel support substituted for timber on foot branch in Dunmore vein.

A rock tunnel 90 feet long was made from Clark to New County vein for ventilation and second opening.

Engine plane 1,000 feet long was made from Clark into New County vein for transportation.

Installed one double inlet Jeffrey exhaust mine fan 20 by 7 feet, and one 28 by 28 inch Ridgway engine.

A surface hospital has been provided.

SPENCER COAL COMPANY

Spencer Colliery.—No. 1 and No. 2 shafts have been retimbered and a new tower built at No. 2 shaft. The tower at No. 1 shaft was cut down 20 feet during the year.

A surface hospital has been built, the washery retimbered and a new 125 H. P. engine installed in the washery to replace four small engines.

NAY AUG COAL COMPANY

Nay Aug Colliery.—Installed a 100-ton loading scale, jigs for egg, stove and nut coal, and new grates, blowers and boilers. A new washhouse has also been built.

CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery.—A rock tunnel was driven through 150 feet of fault in the Clark vein.

CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery:

Carney and Brown Slope.—Ventilation, drainage and safety conditions, fair.

NO. 6 COAL COMPANY

No. 6 Colliery:

No. 6 Slope.—Ventilation and drainage good. Safety conditions, fair.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Pennsylvania No. 1 Colliery.—A rock tunnel 5 by 7 feet and 250 feet long, was driven from the First Dunmore vein, No. 1 shaft, to the First Dunmore vein, through faulty ground, for the purpose of ventilation.

No. 5 Colliery.—Brick building erected, 41 by 150 feet, to take care of outside stock. A new and more modern pump room was finished in Third Dunmore vein near foot of shaft.

A rock tunnel about 500 feet long and 7 by 10 feet in cross-section was driven from the Third Dunmore vein through an upthrow in the Bunker Hill section.

Underwood Colliery.—This colliery was placed in operation April 28. The work of construction has been going on during the year. The boiler plant, power plant, engine house and other necessary buildings are about completed.

SCRANTON COAL COMPANY

Pine Brook Colliery.—Installed 300 Maxim water tube boiler.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond Colliery.—Built new washhouse and sub-station. Installed one 7-ton electric locomotive with reel, etc.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—A tunnel 600 feet long was driven from No. 3 to No. 2 vein.

NAY AUG COAL COMPANY

Nay Aug Colliery.—Built new washhouse. Also built addition to mule barn outside. Installed Hayes derailer above breaker as a safety precaution A First Aid team was trained in the Y. M. C. A. and Bureau of Mines car.

SPENCER COAL COMPANY

Spencer Colliery.—Installed electric hoist in No. 1 shaft, 100 H. P. motor to replace steam hoist. Installed four 30 H. P. motors in mines, and new rotary pump for washery. Concreted 40 feet of No. 1 shaft from No. 1 to No. 2 Dunmore vein. Built 100 feet of new trestle and new scraper line at breaker.

CARNEY AND BROWN COAL COMPANY

Carney and Brown Colliery.—A second opening driven from Marcy vein to surface, a distance of 150 feet. A new hoisting tower was erected.

NO. 6 COAL COMPANY

No. 6 Colliery: No. 6 Slope.—Ventilation and drainage, good. Safety conditions, fair.

No. 6 Drift.—Ventilation and safety conditions, fair. Drainage good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Underwood Colliery.—A rock slope 7 feet by 12 feet and 500 feet long, was driven from the Clark vein to the New County vein for development purposes. A wash-house for employes was built on the outside 30 feet in width and 110 feet long. A storehouse, 30 feet by 80 feet of steel and galvanized iron, was constructed. Approach to the slope from the outside to the first Dunmore vein was concreted. Much grading and finishing was done on the outside.

Pennsylvania No. 5 Colliery.—A brick building, 40 feet by 170 feet, was erected on the outside to replace the old mule barn. This building accommodates mules, outside teams and wagons. On the inside a rock tunnel was driven from the second to the third Dunmore vein in the Bunker Hill section.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond Colliery.—Installed engine and fan for boiler plant. Painted three sides of breaker. The dust system in breaker is being improved. Installed conveyor line, pit, etc., for handling Cayuga coal. Also installed one 7-ton locomotive with reel, etc., two shortwall coal-cutting machines, and one longwall coal-cutting machine.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—Built new fire room and installed 6 new water tube Maxim boilers.

SPENCER COAL COMPANY

Spencer Colliery.—Installed 2 sets of double-deck shakers in the breaker. No. 2 shaft was retimbered, and new ropes were placed in Nos. 1 and 2 shafts.

Erected 2 air-bridges in Clark vein for ventilation purposes. Graded the Clark slope to improve haulage system.

Erected 4 air-bridges in No. 3 Dunmore vein for ventilation. Installed 2 3-stage electrical driven centrifugal pumps with a capacity of 800 gallons per minute.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Completed second openings connecting Nos. 2, 3, and 4 drifts. Installed one 7-ton electric locomotive.

No. 1 Shaft. One 7 by 12 by 63 feet rock tunnel driven from No. 1 Dunmore to No. 3 Dunmore vein. One 7 by 10 by 133 feet rock tunnel driven through fault in Clark vein. Installed one 7-ton electric motor.

No. 2 Shaft. One 7 by 12 by 108 feet tunnel driven from Top Split to Bottom Split 14 foot vein for development. Installed one 7-ton electric motor.

No. 3 Shaft. One 7 by 12 by 132 feet rock tunnel driven from Clark vein to New County vein for development. One 8 by 8 by 42 feet shaft from Clark to New County vein for ventilation. Installed one 7-ton electric motor.

DELAWARE AND HUDSON COMPANY

Olyphant Colliery.—Grassy-Island Shaft. A rock tunnel was driven from New County vein to Clark vein 588 feet long. One rock return tunnel driven from Top Clark to New County vein 99 feet long. Concreted No. 1 shaft 9 feet above surface and 35 feet below surface. Installed electric hoist at No. 15 plane to lower coal from 14 foot and New County veins to Clark vein shaft landing.

Miles slope. A gangway and airway 950 feet long driven up pitch in No. 4 Dunmore vein for ventilation. No. 34 plane 100 feet long driven from Bottom rock to Top rock vein. No. 35 plane 72 feet long driven from Bottom rock to Top rock vein for development.

SCRANTON COAL COMPANY

Johnson Colliery.—Erected a new wash house, and two B. and W. 300 H. P. boilers. Outside. Installed one duplex pump 24 by 10 by 36.

Richmond No. 3 Colliery.—A rock tunnel 7 by 10 feet driven from No. 2 Dunmore vein to No. 1 Dunmore vein for second opening.

SPENCER COAL COMPANY

Spencer Colliery.—The breaker of this operation was destroyed by fire February 3. Erected coal pocket and the coal from the mine is loaded into railroad cars and is taken to the Minooka breaker for preparation.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Scranton, May 8 and 9. The Board of Examiners was composed of D. T. Williams, Inspector, Scranton; Joseph P. Jennings, Superintendent, Moosic; James W. Reese, Miner, and William J. Jenkins, Miner, Scranton.

The following persons passed a satisfactory examination and were granted certificates:

made to the electric sub-station in the Clark vein, the room being arched so as to provide more space. The drainage road that is being driven towards Underwood Colliery was driven 1,221 feet during the year.

Underwood Colliery.—Office building was erected on the surface for the use of the superintendent, outside foreman and colliery clerks. Two 6-inch 1,200-gallon capacity centrifugal pumps were installed to deliver water to the breaker, to replace two 8-inch 700-gallon pumps. Rock tunnel 300 feet long was driven to make car haul to run cars back to tunnel level at foot of No. 1 shaft. New air bridges were built across slopes in the New County and Clark veins, making each lift a separate split of air. Clark vein slope was graded from 4th to 6th lift through basin. Mine foreman's office was built at Clark vein. Hospital was built at Pittston and Rock veins at foot of No. 3 shaft. One Scranton centrifugal pump was installed at lower end of property to discharge water to the surface.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery: No. 2 Shaft.—Rock tunnel 7 by 12 by 120 feet long was driven from Top Split to Bottom Split of the Fourteen Foot vein for development, and rock tunnel 7 by 12 by 110 feet long was driven from Top Split of Fourteen Foot to Rock vein. Installed one 9 by 12 Ingersoll-Rand portable air compressor for general rock work, and one 7½-ton General Electric locomotive.

No. 3 Shaft.—Rock tunnel 7 by 12 by 110 feet long was driven from Clark to New County vein for development. Installed two 7½-ton General Electric locomotives for transportation.

No. 3 Drift.—Installed one 7½-ton General Electric locomotive for transportation.

QUINN COAL COMPANY

Quinn No. 6 Colliery.—A new coal breaker was erected, with a capacity of 300 tons per day. This breaker is provided with all necessary modern equipment, having an electrical hoist and patent roller pickers, also facilities for unloading coal from railroad cars. A new 1,800-foot haulage road was made from the head of the slope to the new breaker. The old breaker was abandoned August 1.

SPENCER COAL COMPANY

Spencer Colliery.—A new coal breaker was erected, with a capacity of 400 tons per day, to replace the one destroyed February 3, 1917. New concrete blacksmith, carpenter and machinist shop was erected. New concrete engine room was made at No. 1 Shaft to replace the wooden one.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in Scranton, April 23 and 24. The Board of Examiners was composed of D. T. Williams, Mine Inspector, Scranton; Joseph P. Jennings, Superintendent, Moosic; James W. Reese and William J. Jenkins, Miners, Scranton.