

by natural ventilation by driving openings to the surface. A new breaker was erected to prepare the coal from these openings. It is a substantial building with first-class machinery. All the dangerous parts are fenced and boxed off. The breaker started to prepare coal in the month of November, 1886.

The Pennsylvania Coal Company built a new breaker at Port Griffith, in Jenkins township, to prepare the coal from shafts Nos. 4 and 7, slope No. 4 and tunnel No. 1. It is a large breaker and has the latest improved machinery. It has a capacity for cleaning a large amount of coal per day. The breaker started up in November, 1886.

Colliery Improvements During 1886.

The improvements made in the different collieries of this district have been somewhat more extensive this year than last. Some of the collieries are old ones, and have been worked very extensively; therefore, it has caused the companies to sink to lower veins to get their collieries in condition to maintain the present shipments of coal from them.

Pennsylvania Coal Company.

This company sunk a new shaft, in **Old Forge** township, Lackawanna county, to the bottom of the Powder Mill vein, a depth of 145 feet, sectional area, 384 feet. It is used to hoist coal, which is taken to the Old Forge breaker for preparation for market. A new inside plane was driven at the bottom of the shaft, 125 feet in length, with a sectional area of 208 feet, and a grade of $12\frac{1}{2}$ degrees.

In No. 10 shaft, a new slope was sunk (600) six hundred feet, and driven up a new plane, a distance of (150) one hundred and fifty feet, to maintain the present out-put of coal

No. 14 breaker, situated in Jenkins township, was burned down on the evening of November 18, 1886, with all the surrounding buildings. The breaker was a new one, and started up on August 7, 1886. The fire is supposed to have started in the boiler-room. The night engineer had occasion to go to look after a pump some distance from the boiler-house; when he came back the fire had got such headway that he could not put it out. One of the boilers had a defective sheet next the fire, which sprung a leak, throwing the fire out of the furnace door and setting fire to the building.

Delaware and Hudson Canal Company.

At the Laurel Run colliery, a tunnel was driven from the bottom split of the Baltimore vein to the top split, a distance of 110 feet, to be used to transport coal; sectional area, 70 feet. They are now driving their second opening for the same purpose.

Lehigh Valley Coal Company.

At the Mineral Spring colliery, a tunnel was driven from the bottom

Miscellaneous Coal Companies.

At the Steven's colliery a new Guibal fan 20 feet in diameter was erected on the air shaft connected directly to the crank of the fan. All the connections to the fan are not completed at this writing.

At the Avoca colliery a new fan 12 feet in diameter was erected on the air shaft which ventilates both seams in the shaft and does away with the furnace which ventilated the bottom vein.

At the clear Spring colliery a new Guibal fan 20 feet in diameter has been erected on the air shaft taking the place of the old Dawson fan which has been abandoned. This fan increases the quantity of air considerably.

At the "William A" colliery two new shafts have been sunk from the surface to the Red Ash seam, a depth of 164 feet by William A. Connell Sons and on the west side of the Lackawanna river in Old Forge township, Lackawanna county.

The hoisting shaft is 16½x11. The other shaft which is used for hoisting and lowering men and for ventilation is 27x11 feet area. A new Guibal fan 17 feet in diameter has been erected on the air shaft.

A new breaker has been built and supplied with first-class machinery for cleaning and preparing a large output of coal; the capacity of breaker is about 1,000 tons per day. It was started to prepare and ship coal in the month of May, 1890. The machinery in and around the breaker is properly fenced or boxed off for the safety of the employes.

The Babylon Coal Company, operated by Simpson, Watkins & Co., has opened up a new colliery on the west side of the Lackawanna river, opposite the town of Duryea. The openings consist of two shafts sunk to Red Ash seam, a depth of 289 feet. The hoisting shaft is 12x16, the other shaft is used for an air shaft and for hoisting and lowering the men; it is 12x18. A new fan has been erected on this shaft 20 feet in diameter which supplies the workings with a large quantity of air. A new breaker has been erected which is a large and commodious structure with a capacity of 1,200 tons per day. It is heated throughout with steam. It was started to prepare coal for market in the month of July, 1890. An inside rock tunnel was driven from the 5-foot to the 6-foot seam, a distance of 100 feet; sectional area 12x7.

Jermyn & Co. have opened a new colliery close to the town of Old Forge in Lackawanna county. The openings consist of two shafts sunk from the surface to the Red Ash seam, a depth of 236 feet. A new fan 18 feet in diameter has been erected on the air shaft, which supplies the workmen with a large quantity of fresh air.

A new breaker has been built and supplied with the latest improved machinery for cleaning and preparing coal for market. Its capacity is about 800 tons per day. It started to prepare and ship coal in the month of July, 1890.

how the accident occurred. The theory which I arrived at, was that Ross and Timboy being in the shanty putting the exploders or caps in the cartridges which were thawed out, by some means exploded one of them, as Ross' hand had some of the wire from the exploder driven into it.

The sticks of dynamite were eight inches long and one and one-quarter inches in diameter, of the B. X. climax brand. The explosive power of the exploder or cap was 85 pounds. Luke Michael, one of the headmen, was standing close to the shaft at the time, and had a narrow escape from being blown down the shaft, his wrist being broken, but he escaped without other injuries.

COLLIERY IMPROVEMENTS DURING THE YEAR 1891.

Pennsylvania Coal Company.

In shaft No. 4 a new gravity plane was driven in the Marcy seam, a distance of 153 feet, with a sectional area of 100 square feet.

In shaft No. 9 a new plane was driven in the Red Ash seam, a distance of 485 feet, with a sectional area of 90 square feet.

On the **Old Forge shaft No. 2**, a new fan 20 feet in diameter was erected, which gives very good results with a working speed of 50 revolutions, exhausting 108,000 cubic feet of air per minute, with a water gauge of 2.75 inches. The engine is a horizontal cylinder 15 by 36 inches, connected direct to fan shaft.

A new fan 20 feet in diameter was erected on a shaft for the purpose to ventilate No. 8 shaft workings; while running 36 revolutions it exhausts 95,000 cubic feet of air per minute, with a water gauge of 2 inches. The engine is a horizontal cylinder 15 by 24 inches, connected direct to fan shaft.

Delaware and Hudson Canal Company.

In the Delaware shaft two inside tunnels were driven from the bottom to the top split of the Baltimore seam, a distance of 45 feet each, with a sectional area of seven by nine feet. Likewise two gravity planes, one 1,000 feet and the other 1,200 feet long, with a gravity of 7°, and sectional area of 14 by 8 feet.

In Pine Ridge shaft an underground tunnel was driven from the top to the bottom split of the Baltimore seam, a distance of 150 feet, with an area of 84 square feet.

Delaware, Lackawanna and Western Railroad Company.

The new breaker at the Pettebone shaft has been completed, which was mentioned in my report of 1889. It is a large and commodious structure. The coal from the shaft being hoisted to the surface and taken to the hoisting tower at the breaker to be rehoisted to the dump. The breaker is well finished throughout, having ample room to clean and prepare a large tonnage of coal. The breaker commenced to prepare coal for market in February, 1891.

Nos. 1 and 2 Shafts, **Old Forge** and Breaker. At Old Forge breaker four Babcock & Wilcox water tube boilers of 600 horse power in two nests or batteries were erected in 1896. Pressure carried, 110 pounds. They were put in operation November 27, 1896, and supply steam to Old Forge breaker, Old Forge shaft No. 2, and to shaft No. 13 of Central Colliery, and have supplanted three cylindrical boilers 60 feet by 30 inches, formerly at the breaker; five 36 feet by 30 inches at Old Forge shaft No. 2, and ten 36 feet by 30 inches at No. 13 shaft; the latter fifteen have not as yet been removed but are not in use at this date.

At Old Forge Shaft No. 1, one Babcock & Wilcox boiler of 130 horse power was also erected in 1896 and put in operation November 18, 1896, and is an addition to the boiler power at that place. The pressure carried is 110 pounds.

William Connell & Co.

A plane has been driven from the abandoned workings in the old tunnel in No. 5 vein to the present workings in No. 4 vein; length, 150 feet; sectional area, 84 feet; gradient, 33 1-3 degrees.

The Connell Coal Company.

"William A" Colliery. A plane has been driven having the following dimensions: Length, 230 feet; sectional area, 7 x 16 feet; gradient, 12 per cent.

An opening has also been made from the Marcy vein to the surface.

Lawrence Mine. A shaft for ventilation has been sunk from the upper to the lower drift workings; depth, 26 feet; sectional area, 8 x 8 feet.

Two planes have been driven, one 485 feet long; 7x21 feet sectional area; gradient, 10 per cent.; the other 1,600 feet long; 8x14 feet sectional area; gradient, 2 per cent to 5 per cent.

An additional plane is in course of construction in lower drift.

Jermyn & Co.

Jermyn No. 1 Shaft. A shaft has been sunk for hoisting coal; depth, 220 feet; sectional area, 11 x 26 feet.

West Ridge Coal Company.

The main hoisting shaft was completed to a depth of 556 feet; sectional area, 12 x 30 feet.

A second opening is being sunk from the Clark vein to the China vein; present depth, 80 feet; sectional area, 8 x 10 feet.

A new slope has also been completed in the No. 4 vein: length, 500 feet; sectional area, 6x15 feet; gradient, 4 per cent.

4-11-96

The Delaware, Lackawanna and Western Railroad Company's mines are kept well in hand. One or two cannot be rated as first class, but there is never any trouble with the mines of this company, for the men in charge of them have always shown a cheerful readiness to comply with the requirements of law.

The Delaware and Hudson Company's mines have been greatly improved. They have only three collieries in my district, which are in good condition as far as ventilation and drainage are concerned.

The collieries of the small companies in the district are in good condition as to ventilation and drainage, excepting the following: Austin Tunnell, of the Austin Coal Co., Sibley, of Elliott McClure and Co., No. 4 tunnel, of Wm. Connell and Co., Wm. A., of the Lehigh Valley Coal Co., Jermyn No. 1, of Jermyn and Co. Some of these have been improved during the year.

Burning of the **Old Forge Breaker** of the Pennsylvania Coal Company

On March 25, 1903, the Old Forge breaker of the Pennsylvania Coal Company was completely destroyed by fire. The daily capacity of the old breaker was 1,800 tons. A new modern breaker was erected again on the same site, with a daily capacity of 2,500 tons.

The National washery of the North American Coal Company was abandoned June 27, 1903.

Babylon Shaft.—The old column pipe in the shaft was replaced with new pipe.

PENNSYLVANIA COAL COMPANY

A new boiler house built of brick, 170 feet long and 51 feet wide, with steel roof trusses and corrugated roofing, has taken the place of the old wooden fire room. The new boiler house is equipped new throughout. Three batteries of Stirling boilers giving 1704 horse power has replaced three batteries of B. and W. boilers of 900 horse power. Two feed pumps 12x8x12 are used to furnish water to the boilers. Two twelve feet fans driven by 10x16 engines together with stacks 81 feet high, 48 inches diameter, furnish the draught. The feed water is heated by a 3000 horse power Cochrane water heater with exhaust steam, before being delivered to the boilers. The draught is conducted in an underground tunnel and can be regulated at each half battery to suit conditions. The grates used are the leaf shaking type, and the ashes are dropped directly into hoppers, are moistened, drawn directly into cars, and are hauled through a tunnel under the boilers. This is a very decided improvement over the old style, as no ashes at all are brought through the fire doors, enabling the fire room to be kept exceedingly clean. The fuel is conveyed by a conveyer line 600 feet long into bins which are directly in front of the boilers, and a week's supply can be kept on hand. The piping consists as far as possible of bends, making the connections very simple and few. An 18 inch extra heavy pipe is used as a header and all steam is drawn from it. In connection with the boiler house there has been built a brick wash-house 28x14 feet divided into three compartments, and fitted with baths and lockers. Two water tanks, holding each 50,000 gallons, have been erected as a reserve for the boilers in case the water should be shut off the mains. An inclined plane has been completed to haul supplies from the railroad tracks to the top of the hill, where they can be taken to the mines by the locomotives. A new locomotive house 40x36 feet to hold three locomotives, with a wood frame and covered with corrugated iron, has been erected at Old Forge No. 1 shaft to replace the old engine house which was at the foot of the breaker plane. A new locomotive weighing 20 tons has been added to the equipment. In the breaker a few things have been added. A rock crusher, running 1000 revolutions per minute, is installed. This will crush all the breaker rock, which when crushed will be slushed into the old workings to protect the pillars. A supply house divided into compartments for lime, hay, feed and general supplies is nearing completion. This building built of brick is 150 feet long by 25 feet wide. An oil house, a fire proof building 17 feet x 27 feet, fitted with Bowser self measuring tanks is about finished. Electric haulage is being installed at Old Forge. The power-house, a brick building 44 feet x 95 feet with steel roof trusses, is erected. The pole lines are erected on the outside. On the inside, the tracks are being bonded, the hangers placed in the roof, and the wire ready to string. Eleven 7 ton and one 13 ton motor will be put into service. Two new openings have been made on the West Mountains, one to the Marcy and one to the Clark veins. An air shaft is being sunk to these veins, all power to be used at these openings will be electricity. These new openings are connected with the breaker by a new tram road nearly a mile in length.

CONDITION OF COLLIERIES AND IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—The two mountain drifts have been completed, and the Clark and Marcy veins are being developed. An air shaft has been sunk from the surface to the Clark vein. A new stone fan house has been erected, equipped with a 20 foot Guibal fan, driven by a 55 H. P. electric motor, which will soon be in operation. A system of electric haulage is being installed; the boiler house was extended 100 feet, and two batteries of Sterling boilers installed, each battery having 568 H. P. A new power house has been erected 90 x 40, equipped with three dynamos, 2-325 K. W. and 1-100 K. W., 2,300 volts, for lighting purposes. The latest motor is run by a 15x16 engine; the other two, which are used distinctly for haulage purposes, are driven by two 24x26 simple automatic engines, 550 H. P. each. The power house is erected at the breaker, and the power carried by wire to Old Forge No. 1 shaft and slope, Old Forge No. 2 shaft, and the Mountain drifts; also to Laws and No. 13 shaft of Central Colliery. In all 20 motors will be installed, five 13 ton, and fifteen seven and one-half ton. Foundations are ready for a new addition to Old Forge washery and jigs will be installed to prepare buck, pea and chestnut sizes. A conveyor line has been built to take the culm from Old Forge dump to new washery. A new store house and office has been built, 50x25.

Inside.—A large pumping plant has been built in red ash vein, at Old Forge No. 2, and two pumps installed, having a combined capacity of 4,000 gallons per M.

Central Colliery.—The breaker has been remodeled from top to bottom, and additional screens, shakers and mechanical slate pickers have been installed, to clean and prepare mud screen coal. The breaker will have a capacity of 1,800 tons, an increase of 600 tons; the pockets are enlarged and strengthened and other necessary changes made in the machinery. At Law shaft a new fan shaft has been sunk from the surface to the red ash vein, size 12x12.

Over this new shaft has been built a modern brick fan house equipped with a 20 foot Guibal fan, driven by steam. The old Central washery was abandoned and a new one built having a capacity of 1,000 tons per day, equipped with jigs for chestnut, pea and buck-wheat coal. The store house which was destroyed by fire in December, 1905, was replaced by a brick structure 25x60. A ten inch bore hole has been sunk to the bottom of Red Ash vein, through which water will be pumped to the surface. A tail rope haulage system has been installed in the Clark vein slope. One 7½ ton electric motor is in operation in No. 13 shaft, and three of the same type in Law shaft; two more will be added in a short time. A rock tunnel, 7x10, driven on a 21 per centum grade will connect the bottom vein at Law shaft with the top red ash vein at the Avoca. The coal in the Avoca property will be taken through this rock tunnel and prepared for market at the Central Colliery, and the Avoca plant will be abandoned.

Barnum Colliery, Inside.—Have driven a rock tunnel from the Marcy to the Clark vein in No. 2 shaft. Also a rock plane from the bottom or red ash vein to the top split or Babylon vein. Coal to be dropped down to bottom vein by an engine. **Outside.**—Have erected

Avoca Shaft.—The tracks in the Avoca mine have been narrowed to the gauge of Laws shaft. Rock was taken down on some heading roads to accommodate the Central mine cars. All the coal in the Avoca mine will be footed at Laws shaft and prepared in Central breaker, when operations are resumed.

Old Forge Colliery.—The addition to the washery is nearly complete; jigs to prepare buck, pea and nut coal have been erected and will be in operation in two weeks.

No. 1 shaft was thoroughly repaired during the year; the old wood cribbing was taken out and replaced with concrete; the wood engine house was torn down, and replaced with a brick building; all buntons, guides and brattice work were renewed and the shaft remodeled.

Six, seven and one-half ton cable reel motors have been added to the electrical equipment, as follows: two at No. 2 shaft, two at No. 1 shaft, and two in the Clark Mountain drift. At Old Forge No. 2 shaft a new mine hospital and foreman's office has been built in the Five Foot vein.

The ventilation is being continually improved. A new air shaft to be sunk near the most advanced workings will give another outlet and an abundance of air.

The Old Forge mines are in good condition.

LEHIGH VALLEY COAL COMPANY

William A. Colliery.—The company drove a plane in the Red Ash vein, connecting the Lawrence and the William A. mines and installed an oil burning locomotive for inside transportation between Babylon and William A. All the coal from the Lawrence shaft workings and drift workings and also from the Babylon shaft workings and drift workings, is being conducted underground to the foot of William A. shaft and prepared in the William A. breaker.

The condition of the Lehigh Valley collieries in this district is such that a great deal of care is required on the part of the Inspector which is very annoying to the officials in charge.

Seneca Colliery.—The No. 9 slope in the Twin Shaft, Marcy vein, has been driven to the 5th and 6th veins, which are being developed near Scovel Island.

Rapsons tunnel has been driven through the big fault near or on the Phoenix lease, and the Marcy veins are being developed on the west side of this line of disturbance; the new air returns for the Columbia shaft workings and the Twin Marcy slope have been completed; a very modern concrete mule barn to accommodate 60 mules has been built, and also a concrete station house inside for the ambulance car. A pump house is being built at the foot of the Marcy vein slope for the installation of some heavy pumping machinery.

In the Pittston vein, the thickness of roof cover is the problem. The workings are parallel to and under the Susquehanna river, and the quantity of sand wash over the vein is a condition sufficiently serious to impress the company with the advisability of keeping the development of this vein isolated from their other workings, and advancing only when a bore-hole, sunk ahead, proves the thick-

CONDITION OF COLLIERIES AND IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

At Central Colliery, an improvement has been made in the matter of access to the ash pit of the boiler house. Previously there has been but one end open, the other being walled, and the whole ventilated by a steam jet blowing in a stack. The new arrangement does away with that, and the pit is now open from both ends admitting a free passage of pure air.

An egg shaped concrete water course about a mile long, constructed through the workings of both Central and Old Forge collieries, gathers the water from these workings and delivers it to a very modern and unsurpassed pumping plant at No. 2 shaft.

The No. 2 Old Forge shaft has been idle since June and the plant and workings have been completely overhauled. The shaft is now concreted from bed-rock and raised to accommodate a grade, which permits the abandonment of the old grade crossing for mine cars on the main road, the cars now being conducted over a new steel and concrete bridge. A new steel tower has been erected to replace the old one, and also a new brick engine house and hoisting engine. At the Mountain drifts a new shaft has been sunk to the Dunmore vein tapping the advanced workings of No. 3 shaft, a 20 foot fan, electrically propelled, has been installed and encased in a brick engine and fan house, and also a fan drift, which guarantee an adequate supply of ventilation. The new shaft is used for an upcast exclusively, while the old fan shaft at No. 2 provides an additional down-cast.

I consider the Pennsylvania collieries, Old Forge and Central, to rank with the very best in my district.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

The Hallstead Colliery was closed down in September, after a conference with the Inspector, it being decided to take up the matter of some much needed improvements. Mining is suspended, but a force of men are regularly employed thus far making the changes referred to. The Pyne and Taylor collieries, which were transferred to me April 1, 1908, from the Fourth district, are in good condition. A new fan shaft is being sunk at the Pyne to supply ventilation to the Dunmore veins, which will later be developed, and a 20 foot fan will be installed thereon.

JERMYN AND COMPANY

At Jermyrn Collieries a new pump has been installed at No. 2 shaft to return the water from the washery, the silt being run into the old workings. A new washery has been completed near No. 1 breaker; here the silt is first deposited in a settling tank, and the water passes off into the creek, it being first supplied from the Clark vein in No. 3 shaft by the big pump, which delivers it to the top of the washery over one thousand feet removed from the shaft.

RANDALL AND SCHAAD BROTHERS ANTHRACITE COAL COMPANY,
LIMITED

Randall and Schaads.—Condition as to drainage, ventilation and general safety is good.

IMPROVEMENTS AT COLLIERIES

PENNSYLVANIA COAL COMPANY

Central Colliery.—At No. 13 shaft a centrifugal pump electrically driven with a capacity of 1,000 gallons per minute has been installed.

A new opening has been driven into the Marcy vein at Laws shaft to give extra facilities for handling coal.

A plant has been erected at Avoca bank, to pick up the culm, load it into railroad cars, and send it to the various washeries for preparation.

OLD FORGE COLLIERIES

A number of machines, such as lathes, wheel-presses, and boring machines have been installed in the shop.

A number of the roads at the Mountain drifts and Old Forge No. 2 shaft have been uniformly graded to provide better haulage roads for the electrical equipment.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

The Pyne Colliery was shut down for extensive repairs to the breaker from July 3 to December 1.

The Pyne Breaker was practically rebuilt. Ten new Emery mechanical slate pickers, 44 spiral separators and 14 shakers were installed.

One breaker, 18 inches x 26 inches Hamilton Corliss engine was installed to replace two old breaker engines. One Jeffrey rock crusher was installed driven by a 50 H. P. electric motor; two new cylinders, 22 inches x 48 inches, were installed on the shaft hoisting engines, operated by two double seated 8-inch throttle boat valves and an extra or emergency valve.

A new system of heating the breaker throughout was installed, also new fire water lines.

The wooden trestle was replaced with a steel structure; a new concrete reservoir, 40 feet in diameter, for boiler feed water was built and also a new brick and concrete fire proof oil house.

A new Jeanesville 18 inch x 34 inch x 36 inch compound condensing plunger pump, capacity 1,500 gallons per minute, was installed near the foot of shaft in a fire proof pump house.

A new air-shaft was sunk from the surface to the Clark vein 12 inches x 14 inches x 300 feet in depth; and a new ventilating fan, Guibal type, 6 feet x 8 feet x 24 feet, was installed on this shaft, driven by 18 inch x 36 inch Hamilton Corliss engine.

There was also installed a new breaker dust fan, 2 feet, 7 inches x 5 feet, 6 inches x 12 inches, to be driven by a 75 H. P. electric motor. All tubing is made of galvanized iron.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge.—Ventilation, drainage and condition as to safety, good. Colliery is mining pillars to some extent.

Central.—Ventilation, drainage and general condition, good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pyne.—Ventilation, drainage and condition as to safety, good. Colliery is mining pillars.

Taylor.—Ventilation, drainage and condition as to safety, good.

Halstead.—Ventilation, drainage and general condition as to safety, fair.

JERMYN AND COMPANY

Jermyn Nos. 1, 2 and 3.—Ventilation and drainage good; condition as to safety, fair. Robbing pillars extensively.

HILLSIDE COAL AND IRON COMPANY

Consolidated.—Ventilation, drainage and condition as to safety, good. Pillars are being robbed.

ELLIOTT McCLURE AND COMPANY

Sibley.—Ventilation, drainage and condition as to safety, good.

HUDSON COAL COMPANY

Langcliffe.—Ventilation, drainage and general condition as to safety, good. Mining pillars.

Spring Brook.—Ventilation, drainage and general condition as to safety, good. Robbing pillars.

LEHIGH VALLEY COAL COMPANY

Austin.—Ventilation, drainage and general condition as to safety, fair. Robbing pillars almost exclusively.

MOOSIC COAL COMPANY

Moosic.—Ventilation, drainage and condition as to safety, good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Started work on the opening to the Clark and Marcy veins on the E. A. Corey tract. An air shaft 12 feet by 12 feet has been sunk 125 feet in depth. A slope 7 feet by 12 feet in the clear, 450 feet in length, on a pitch of 15 degrees, is being sunk to the Clark vein and also cuts the Marcy.

Central Colliery.—A new brick stable was built to accommodate all the mules. The inside barns have been abandoned and torn out.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Ventilation, drainage and condition as to safety good. Colliery is mining pillars to some extent.
Central Colliery.—Ventilation, drainage and general condition as to safety good. Colliery is mining pillars.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pyne Colliery.—Ventilation, drainage and condition as to safety good. Colliery is mining pillars.
Taylor Colliery.—Ventilation, drainage and condition as to safety good. Pillars are being robbed.
Halstead Colliery.—Ventilation, drainage and general condition as to safety fair. Colliery is mining pillars.

JERMYN AND COMPANY

Jermyns Colliery.—Ventilation, drainage and general condition as to safety, good. Robbing pillars extensively.

ELLIOT, McCLURE AND COMPANY

Sibley Colliery.—Ventilation, drainage and condition as to safety good. Colliery is mining pillars.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Ventilation, drainage and condition as to safety good. Robbing pillars.

HUDSON COAL COMPANY

Spring Brook and Langcliffe Collieries.—Ventilation, drainage and condition as to safety good. Mining pillars.

LEHIGH VALLEY COAL COMPANY

Austin Colliery.—Ventilation, drainage and general condition as to safety fair. Robbing pillars almost exclusively.

MOOSIC COAL COMPANY

Moosic Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—A slush pump 24 by 10 by 36 inches was installed for the purpose of pumping slush to a bore hole near No. 1 shaft where a pulverizer is erected to crush breaker slate. Both slush and slate go down the same bore hole to fill and secure abandoned workings.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Central Colliery.—Ventilation, drainage and general condition good. Mining pillars.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pyne Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Taylor Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

Halstead Colliery.—Ventilation, drainage and condition as to safety fair. Mining pillars.

JERMYN AND COMPANY

Jermyns Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars extensively.

ELLIOTT, McCLURE AND COMPANY

Sibley Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

HUDSON COAL COMPANY

Spring Brook Colliery.—Ventilation, drainage and general condition as to safety good. Mining pillars.

Langcliffe Colliery.—Ventilation, drainage and condition as to safety good. Mining pillars.

LEHIGH VALLEY COAL COMPANY

Austin Colliery.—Ventilation, drainage and general condition as to safety fair. Mining pillars almost exclusively.

MOOSIC COAL COMPANY

Moosic Colliery.—Ventilation, drainage and condition as to safety good.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—A new steam line erected from the breaker to No. 1 shaft, and the boiler plant at the latter place abandoned.

A saw mill, operated by electricity, has been built on the outside near No. 1 shaft to cut props needed for the colliery.

Considerable work has been done grading the main haulage roads in No. 2 shaft to eliminate the present grades.

Central Colliery.—For better fire protection a new fire pump was installed outside.

Rebuilt the head frame over Laws shaft.

Considerable work has been done filling in the old workings in the Red Ash veins with culm and broken rock from the breaker.

A saw mill, operated by electricity, has been built to cut the props for the colliery.

The engine and pump house at No. 13 shaft was rebuilt, making it fireproof.

A rock plane, 7 by 12 feet, on a 20 degree grade, was driven from Nigger vein to Clark vein, in Laws shaft, a distance of 470 feet.

An air shaft, 10 by 14 feet, was sunk from the surface to the Nigger vein for a second opening and ventilation.

A traveling way was driven from surface, striking the crop of the Clark vein near Laws shaft. This provides a second opening and a good traveling way from this seam.

JERMYN AND COMPANY

Jermyns Colliery.—Old revolving screens taken out and new shaking screens put in breaker.

Three pairs of compounded rollers were installed in the breaker.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Considerable work has been done rebuilding the washery pockets.

At Consolidated drift an air shaft has been sunk from the surface to the Red Ash vein to provide better ventilation and at the same time makes another second opening to the surface.

A slope has been driven from the surface into the top split of the Stark vein at Consolidated drift.

At the Red Ash slope an additional pump to pump to the surface has been installed.

The old Brown slope near Consolidated breaker has been reopened for the purpose of taking out the pillars.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the High School, Old Forge, June 6 and 7.

The Board of Examiners was composed of Augustus McDade, Inspector; R. W. Rees, Superintendent, Rendham; Morgan E. Griffiths, Miner, Taylor; John F. Hayes, Miner, Old Forge.

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

MINE FOREMEN

Nelson N. Nichols, Thomas Farmer, Stanley Gleason, David Beacham, Scranton; Patrick L. Heneghan, Thomas Loftus, William H. Cordy, Old Forge; John T. Harris, Thomas J. Jones, Alfred Jones,

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge.—Ventilation, drainage and condition as to safety, good.
Mining pillars.

Central.—Ventilation, drainage and general condition, good.
Mining pillars.

Sibley.—Ventilation, drainage and condition as to safety good.
Pillars are being mined. There has been a marked improvement in a general way in this colliery since it was purchased by the Pennsylvania Coal Company.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Taylor.—Ventilation, drainage and condition as to safety, good.
Mining pillars.

Pyne.—Ventilation, drainage and condition as to safety, good.
Mining pillars.

Halstead.—Ventilation, drainage and condition as to safety, fair.
Mining pillars.

JERMYN AND COMPANY

Jermyn.—Ventilation, drainage and condition as to safety, good.
Mining pillars extensively.

HILLSIDE COAL AND IRON COMPANY

Consolidated.—Ventilation, drainage and general condition as to safety, good. Pillars are being mined.

HUDSON COAL COMPANY

Langcliff.—Ventilation, drainage and condition as to safety, good.
Mining pillars.

LEHIGH VALLEY COAL COMPANY

Austin.—Ventilation, drainage and condition as to safety, fair.
Mining pillars almost exclusively.

MOOSIC COAL COMPANY

Moosic.—Ventilation, drainage and condition as to safety, good.
Idle the entire year.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—An addition of 30 feet has been built to the power house and 2 exhaust steam turbines have been installed to furnish additional electric power. Additional troughs have been placed in the breaker from the various parts of the machinery to the dust fan, to take care of the breaker dust. Overwinding safety devices have been placed on the engines at Nos. 1 and 2 shafts. Work has been started on the sinking of a slope near Old Forge No. 2

shaft to the Clark vein. A new fireproof motor barn has been built near the foot of No. 1 shaft. A new and large hospital has also been made on the inside at this place. At Coray slope a fireproof motor barn and a fireproof hospital have been placed in the Clark vein.

Central Colliery.—Overwinding devices have been placed on the engines at Laws and No. 13 shafts.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Taylor Colliery.—Installed one 1,500 gallon centrifugal pump, for the purpose of pumping water from Clark vein to surface. Tunnel driven from Rock vein to bottom split of Diamond vein. Air shaft sunk from Clark to No. 1 Dunmore vein, for the purpose of ventilating Dunmore vein. Brick and concrete washhouse with steel lockers, erected on the outside.

Halstead Colliery.—Re-opening Nos. 2 and 3 Dunmore veins. Rock tunnel made from Clark to Marcy vein. Re-cribbed Feeder Dam shaft. Slope made from surface to Marcy vein. Built new reservoir for Feeder Dam shaft, to replace old one.

JERMYN AND COMPANY

Jermyn Colliery.—Installed 3 electric pumps. Concreted No. 3 shaft and fanway.

CONDITION OF COLLIERIES

PENNSYLVANIA COAL COMPANY

Old Forge, Central and Sibley Collieries.—Ventilation, drainage and condition as to safety, good. Pillars are being mined.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Taylor and Pyne Collieries.—Ventilation, drainage and condition as to safety, good. Pillars are being mined.

Halstead Colliery.—Ventilation, drainage and condition as to safety, fair. Pillars are being mined.

JERMYN AND COMPANY

Jermyn Colliery.—Ventilation, drainage and condition as to safety, good. Mining pillars extensively.

HUDSON COAL COMPANY

Langcliffe Colliery.—Ventilation, drainage and condition as to safety, good. Pillars are being mined.

HILLSIDE COAL AND IRON COMPANY

Consolidated Colliery.—Ventilation, drainage and condition as to safety, good. Mining pillars.

LEHIGH VALLEY COAL COMPANY

Austin Colliery.—Ventilation, drainage and condition as to safety, good. Mining pillars exclusively.

MOOSIC COAL COMPANY

Moosic Colliery.—Idle the entire year.

IMPROVEMENTS

PENNSYLVANIA COAL COMPANY

Old Forge Colliery.—Two mixed pressure turbines were installed in Old Forge power house to provide additional electrical power.

A slope was sunk from surface to Clark vein near Old Forge No. 2 shaft, and engines etc., were installed in order to facilitate transportation.

Central Colliery.—A rock tunnel was driven from the top split of the Red Ash vein to the top split of the Red Ash vein in Law shaft.