work headings 10, air-ways 14 and chambers 30 feet wide; they leave pillars 15 feet wide to sustain the roof; they leave cross-entrances 50 feet apart for the purpose of ventilation; the roof is slate; the mine is in a good working condition.

Ventilation is produced by means of a furnace; the intake is located at mouth of tunnel, area 36 feet; the outcast is located in furnace air-shaft, area 42 feet; the amount of pure air is 9,660 cubic feet per minute; they have double doors on main travelled roads; the main doors are hung so as to close of their own accord; they have attendants at main doors; the air is circulated to the face of the workings in one volume; the amount of ventilation has been measured and reported; ventilation is good.

Machinery.—They use 1 breaker engine, 70-horse power; the boilers have been cleaned and examined and reported in good condition; they have a steam gauge to indicate the pressure of steam; the breaker machinery is boxed and fenced off so that operatives are safe; they require no machinery around the tunnel.

Remarks.—They have furnished a map of mine; they have a second opening; they have no house for men to wash or change in; there is some standing water in the mine; the mining boss seems to be a practical and competent man; there are no boys working in the mine under 12 years of age; the engineer seems to be a practical, experienced and sober man; the parties having charge know their duty in case of death or serious accident.

EDDY CREEK SHAFT.

This shaft is located in Olyphant, Blakeley township, and situated on Eddy creek, 500 feet south-east of the Lackawanna river; the shaft is 408 feet deep to No. 2 vein of coal; it is operated by the Delaware and Hudson canal company. A. B. Nicol is assistant mine superintendent, R. K. Laidler is mining boss and R. E. Alexander is outside foreman.

Description.—There is a breaker connected with this mine, located 350 feet from main shaft; they mine and prepare 100 tons of coal per day; they employ 14 miners, 14 laborers, 6 drivers and 4 company men in the mine; 2 head and plate men, 4 mechanics and 1 boss outside; in all 45 men and boys; they are working the No. 2 vein of coal, average thickness 5½ feet; they work headings 10, air-ways 14 and chambers 36 feet wide; they leave pillars 15 feet wide to sustain the roof; they leave cross-entrances 50 feet apart for the purpose of ventilation; the roof is fire clay; the mine is in a good working condition.

Ventilation is produced by means of a water-fall; the intake is located in second opening, area 42 feet; the upcast is located in main opening, area 60 feet; the amount of pure air is 18,000 cubic feet per minute; the main doors are hung so as to close of their own accord; they have attendants at main doors; the intake is in second opening, and traverses the workings of No. 2 vein, then goes down the main shaft to the lower vein, goes through all the workings and comes up the main shaft; there is noxious gas evolved in the lower vein, not working now; the air is circulated to the face of the workings in one volume; the amount of ventilation has been measured and reported; ventilation is good.

Machinery.—They use 2 hoisting engines, 118-horse power; 1 pumping engine, 77-horse power, and 1 steam pump, 66-horse power; they have a metal speaking tube in the shaft; they have a safety carriage, with all the modern improvements; they have an adequate brake, and flanges of sufficient strength and dimensions for safety attached to the hoisting drum; the shaft is protected by vertical gates; the ropes, links, chains and connections are in good condition; the boilers have been cleaned and examined and reported in good condition; they have a steam gauge to indicate the pressure of steam.

Remarks.—They have furnished a map of mine; they have a second opening; they have no house for men to wash or change in; the mining boss seems to be a practical and competent man; there are no boys working in the mine under 12 years of age; the engineers seem to be experienced, competent and sober men; they do not allow any persons to ride on loaded carriages in the shaft; they do not allow more than 10 persons to ride on the safety carriage at one time; the parties having charge know their duty in case of death or serious accident.

Have put up a 20-foot fan, by 5-foot face, run direct by two engines, one on each end of fan-shaft.

Eddy Creek Shaft.

New breaker all ready. Expect to start on February 15th. Have sunk a new slope in south dip 600 feet long to first basin.

Marvine Shaft.

Finished sinking slope on north dip. Finished second opening to Leggett's Creek in Diamond vein. Put three drill-holes down from Diamond vein to 14-foot to take water from small basin—saves one steam-pump.

Leggett's Creek Shaft.

Put new buntings and guides in hoisting shaft. Are now taking 100 cars per day of coal from the Diamond vein. Put three drill-holes down from Diamond to 14-foot vein, to take water from basin—saves two steam-pumps.

Von Storch Mines.

Have driven under the river from foot of slope in 14-foot vein, to open coal on south-east side of river. Are cutting up the north-west rise in Diamond vein to outcrop to get air-shaft for intake air; also put in new 17-foot fan.

Yours, etc.,

ANDREW NICOL,
General Superintendent of Mines.
Per A. B. NICOL.

Number of children left as orphans from accidents in 1890,	132
Number of tons of coal produced for each orphan,	67, 669

There were 280,200 kegs of powder used in mining 8,932,235.07 tons of coal in 1890, which would give 31.88 tons of coal for each keg of powder used.

There are 2,753 horses and mules working in and about the mines in this district. There are also 34 mine locomotives with a horse-power of 1,799, making in all a total horse-power of 4,552 for transportation of coal in mines and between mines and breakers.

There are 905 steam boilers which supply steam for 385 hoisting, fan and breaker engines, which have a horse-power of 23,809; also 301 pumping engines and steam pumps with a horse-power 10,665.

There are 68 breakers which have a capacity for preparing and cleaning 53,045 tons of coal per day for shipment to market.

There are also 4 chute buildings for cleaning and dividing coal into various and different sizes, shipping some to market direct and some to breakers to be prepared for market.

Respectfully submitted.

PATRICK BLEWITT,
Inspector of Mines.

COLLIERY IMPROVEMENTS FOR 1890.

Delaware, Lackawanna and Western Railroad Company, has made no improvements except driving headings and airways, so as to have their mines in proper condition for opening out their mine workings when necessary.

DELAWARE AND HUDSON CANAL COMPANY.

This company has made but very few improvements during the year.

Clinton Colliery.—Has finished one outside slope.

Eddy Creek Colliery.—Has built an addition to breaker for the purpose of making chestnut, pea and buckwheat coal.

Olyphant No. 2 Colliery.—Put in place one fan engine, 18″ x 22″; size of fan 17′ diameter by 4′ width of face, also placed three boilers 34′ long by 36″ in diameter.

Jermyn No. 3 Colliery.—Finished sinking air shaft to "G" or 14′ vein. Machinery is on the ground but not put in place yet.

Capouse Colliery—Have finished one plane from "G" to Rock Vein.

Pine Brook Colliery.—Drove one slope in coal and one tunnel in rock.

Large bodies of water have been successfully tapped and drained off from old working by the Pancoast and John Jermyn Companies, thus securing their mines from sudden inflows of water.

The Delaware and Hudson Canal Company after boring to ascertain the thickness of the pillar between the Eddy creek shaft workings, and those of the slope in Jermyn No. 4, and against which water, to a vertical height of eighty feet was pressing, abandoned the plane along the pillar, and built seven dams of fire-brick and cement, and have thus strengthened the pillar and secured their mine from the possibility of an inflow of water from this point. The bore holes which are fifteen in number range in length from fourteen to thirty-five feet. Pillars are being robbed in several of the mines of the district previous to abandoning them, and while this is considered the most dangerous work connected with the mining of coal, I am happy to be able to say that no person who was thus engaged was killed or injured by a fall of roof during the year.

REMARKS ON FATAL ACCIDENTS.

In view of the many fatal accidents which occurred in this district during the year, I deem it imperative to make a few remarks on the principal causes of most of them, and also to describe, so far as possible, in detail, each accident that would not have happened had ordinary care been exercised by the unfortunate victims themselves.

Carbonated hydrogen gas is conspicuous in the mines of this district only by reason of its almost entire absence. It is evolved in but six of the fifty-eight openings comprising the district, consequently, accidents from explosions are few, one only from this source proving fatal during the year, and that was caused by an acknowledged mistake on the part of the unfortunate man, who was also a fire-boss. But while accidents from this source are few, the number of fatal and non-fatal accidents caused by falls of coal and roof is far too great. By referring to the table of fatal accidents in this report, it will be observed that out of a total of fifty-five, thirty-six, or nearly sixty-five and a half per cent. were caused in this manner.

It is a well-known fact that persons who are daily, and almost hourly, exposed to danger, become so accustomed to it as to regard it with an indifference approaching contempt. It is this consummate contempt of danger on the part of many miners, that leads them to take so many uncalled for, utterly unnecessary and frequently fatal risks, of which a description is herein given. It is frequently noticed that where no slips are visible in the top coal, it is left to overhang for a distance of ten, fifteen or possibly twenty feet, more or less, without a prop to support it at the other edge; a shot is fired in the bottom bench which cuts a slip, that runs up into and through the top coal; soon after the shot

of the roof; and as for top coal it should not be left to overhang for any length of time, in any place without props to support it while mining out the bottom bench.

If these rules were adopted and rigidly enforced in all our mines, the number of deaths by falls of all kinds, would without any doubt, be far less numerous in the future. In conclusion, I wish to say a few words against a dangerous practice that prevails among the drivers in some of the collieries of this district, and which is frequently the cause of injuries to this class of employes. It will be remembered that when the mine law was revised in 1885, a new clause was inserted preventing after a certain period of time the use of any mine car, the bumpers of which were not of sufficient length and width to keep the bodies of said cars separated by not less than twelve inches when the cars stood on a straight level road.

This very good clause is also contained in the present law, and undoubtedly has been the means of reducing the number of accidents caused by being squeezed between cars. But while this is true, it may well be questioned, whether the number of accidents caused by being run over by cars has not increased, owing in a great measure to the use made of the long bumpers by the drivers in and around some of the collieries. They will sit on the bumpers of moving cars, with one foot on the stretcher, and the other sliding along the rail, and they frequently can be seen with both feet upon the stretcher chain, riding along thoughtless of any danger, when suddenly their feet slip off, and they are thrown under the cars and seriously if not fatally injured. This was the case in 1892, when one was killed, and four others were so seriously injured that amputation of leg or arm was necessary.

I am happy to say, however, that through the untiring efforts on the part of some foremen in this district the habit has been abolished in several collieries, and if the foremen and others in charge of drivers in collieries where this dangerous practice is still in vogue, persist in their efforts to accomplish the same end, accidents from this source will be things of the past. The adoption and rigid enforcement of a rule absolutely prohibiting any one to ride on the bumpers in the above manner would in a very short time have the desired effect.

IMPROVEMENTS MADE DURING THE YEAR 1892.

Delaware and Hudson Canal Company.

At Eddy Creek two new planes were completed, one 750 and the other 1,350 feet long, having a sectional area of 84 square feet respectively.

At No. 1 shaft two new air shafts were sunk, each having an area of forty square feet, and a depth of twenty-two feet.

Eddy Creek

Table F.—Nationality of Persons Killed and Injured.

Nationality.	Polish.	American.	Irish.	English.	Welsh.	Hungarian.	Italian.	German.	Russian.	Austrian.	French.	Grecian.	Bohemian.	Total.
Killed or fatally injured,	8	8	14	7	4	4	3	....	2	1	....	....	....	51
Injured,	31	26	19	24	11	10	2	5	2	1	1	1	1	134
Total,	39	34	33	31	15	14	5	5	4	2	1	1	1	185

Table G.—Showing the Quantity of Coal Mined and Shipped, the Number of Days Worked, the Number of Persons Employed, the Number of Persons Killed and Injured in and About the Mines of this District During the Five Years Ending December 31, 1896.

Years.	Total production in tons of coal.	Total shipment in tons of coal.	Number of days worked.	Number of persons employed.	Number of persons killed.	Number of persons injured.
1892,	5,854,638	5,546,590	209.94	14,121	55	115
1893,	6,202,131	5,914,673	195.35	15,634	51	96
1894,	5,907,251	5,692,644	171.90	16,014	47	98
1895,	6,510,817	6,216,137	182.31	16,272	39	121
1896,	6,217,447	5,996,599	179.40	17,604	51	134
Totals,	30,692,281	29,367,733	938.9	79,645	243	564

Improvements.

A new fan has been erected by the Delaware and Hudson Canal Company at the Marvine shaft to ventilate the fourteen foot workings. The old one will hereafter be used to ventilate the Clark vein.

At Eddy Creek two new planes were driven from the Rock vein to the "14 foot." One is two hundred feet long, the other five hundred feet. A new slope seven hundred feet long was also sunk.

At Grassy Island a new slope has been driven from No. 2 vein to the Diamond, a distance of six hundred feet. Two new shafts have been sunk and a new fan erected to improve the ventilation in the workings of the Wilson creek tunnel.

second opening, which had been but recently completed. As the only other way of escape was cut off by the fire at the head of the main shaft.

The Riverside Coal Company's breaker of 1,000 tons a day capacity was destroyed by fire on May 11, since which time a new one has been erected on the site of the old one.

The Delaware and Hudson Canal Company has built a new breaker of 2,000 tons a day capacity at Olyphant. A new coal washery has also been erected by the same company, and a new air shaft has been sunk for the Morvine and Dickown shafts, and a 20-ton air locomotive has been installed at Leggett's creek.

Compressed air coal drills have been introduced by the Elk Hill Coal and Iron Company at Richmond No. 3.

The tail rope system of haulage has been adopted by the Delaware, Lackawanna and Western Railroad Company at Storrs No. 1 with good results.

Many other improvements have been made by other companies for facilitating and increasing the output of coal.

The ventilating facilities are ample throughout the district, and on the whole the air currents are well conducted to the faces of all working places.

Culm is being successfully flushed into the old workings of Grassy Island and Eddy Creek by the Delaware and Hudson Canal Company. Also by the Mt. Jessup Coal Company into their slope workings.

Considerable "pillar robbing" has been done during the year by several companies, but the number of accidents attending this critical work has been remarkably few.

The Russel B., formerly the Old Buffalo mine, was abandoned in August.

The general condition of the collieries is good, and I am pleased to say that the provisions of the mine law are being very generally observed by those in charge of the mines.

The report contains the usual statistical tables, together with a brief description of each accident, but in view of the fact that a monthly narrative report of the daily performance of my duties has been made to the Chief of the Bureau of Mines, containing suggestions and recommendations from time to time as the circumstances required, the report is not as lengthy as heretofore.

Respectfully submitted,

EDWARD RODERICK,

Inspector First Anthracite District.

The annual examination of applicants for mine foreman and assistant mine foreman certificates of qualification, was held at Carbondale on July 12 and 13 by the Board of Examiners, consisting of

TABLE F—Nationality of Persons Killed and Injured.

	Poles.	American.	Irish.	English.	Welsh.	Austrian.	Hungarian.	Russian.	Slavs.	Greek.	Italian.	Scotch.	German.	French.	Totals.
Killed,	16	10	10	9	6	5	5	2	1	1	3	....	....	....	68
Injured,	24	19	22	12	15	2	7	....	4	....	5	3	2	1	116
Total,	40	29	32	21	21	7	12	2	5	1	8	3	2	1	184

Examination.

The annual examination of applicants for mine foremen and assistant mine formemen certificates of qualification was held at Carbondale on July 18 and 19, by the Board of Examiners, consisting of Edward Roderick, Inspector; Chas. P. Ford, Superintendent; James E. Morrison and Joseph T. Roberts, miners, and Lewis H. John, clerk.

Fifteen applicants entered for mine foremen certificates and the following named persons were successful and were recommended: Thomas C. Boylan and Patrick F. Tigue, of Carbondale; J. W. Parfrey, Dunmore; John D. Jones and Edward Scharar, Scranton; Paul Bright, Throop; John J. Williams, Olyphant, and William T. Powell, Plymouth.

The following persons were recommended to receive assistant foremen certificates: John Robinson and Thomas C. Hodgoon, Scranton; Thomas Johns and Benjamin Milton, Vandling; James H. Swift and Martin Murphy, Archbald; David B. Thomas, Peckville, and David J. Morgan, Carbondale.

Improvements Made During the Year 1899.

Delaware and Hudson Company.

At the Leggett's Creek Colliery a new breaker of 2,000 tons a day capacity has been erected and the old one, which was built over the shaft, has been razed.

Two new air locomotives have been installed in the mine.

Also, at the Marvin, a twelve-ton air locomotive has been installed.

At Eddy Creek two new planes have been built in Grassy Island vein, and a slope has been sunk in Diamond vein.

In Olyphant No. 2 a chain hoist has been placed in rock vein to take empty cars from foot of shaft, doing work which formerly required three mules. Also, a new Jeanesville pump has been installed, making two pumps delivering water to surface through an 18-inch bore hole.

TABLE F—Nationalities of Persons Killed or Injured.

Nationalities.	Killed.	Injured.	Totals.
Pole,	6	24	30
American,	6	22	28
Irish,	5	17	22
English,	6	14	20
Welsh,	2	13	15
Slavs,	2	9	11
Italian,	3	6	9
Austrian,	2	4	6
Hungarian,	2	4	6
Russian,	4	1	5
German,	2	2	4
Scotch,	.....	2	2
Totals,	40	118	158

Improvements at Collieries.

Delaware and Hudson Company's Improvements.

At Clinton a new air shaft 10x12 feet and 240 feet deep was sunk for ventilating purposes, and a new fan was installed to ventilate the East Side tunnel.

At Coal Brook a rock plane 300 feet long was driven from bottom to top vein, and an air shaft sunk. A new air compressor was installed and three new air motors added for haulage. A new drift was opened on East Mountain; and an air shaft sunk.

At Jermyn No. 1 a new 22-foot fan was installed, to replace the old one. A rock plane 600 feet long, driven to shorten transportation, and improve ventilation, was made.

Grassy Island.—The rock vein was opened and air connections made.

At Eddy Creek a slope was sunk from surface to rock vein to improve ventilation on Mills tract workings.

Hillside Coal and Iron Company.

A new breaker was built at Forest City to replace the old one, which was destroyed by fire in early part of the year.

The Price Pancoast Coal Company has sunk the main shaft to Dunmore veins; also, installed a new fan 35 feet in diameter.

The Johnson Coal Company has driven a 1,000-foot tunnel from prove ventilation on mills tract workings.

New Shaft.—Present depth 525 feet. Section of shaft 12x50 feet to be continued to Dunmore vein. Erection of new Guibal fan at this shaft 28x8 feet, driven by a pair of Corliss engines 18x36 inches each.

Eddy Creek.—Tunnel being driven from Rock vein to Big vein, section 7x12 feet, not completed. Four new openings located along East bank of the Lackawanna river, near Priceburg. One of these to open the Pierce vein, and three to open the Church vein. New air shaft commenced, circular in shape, 14 feet diameter. One centrifugal pump of 500 gallon capacity, driven by electric motor.

Three Gardiner electric drills for coal mining put in use.

No. 2 Olyphant.—Three locomotive type boilers of 250 horse power each installed. One 22 and 38x16x48 inch Jeansville Duplex pump, capacity 3,000 gallons per minute.

One 60 K. W. electric generator belted to a 13x12 inch Ball engine.

By the Sterrick Creek Coal Company

Sterrick Creek.—To improve the ventilation, a rock air-way was driven from the slope workings of the Dunmore vein up to the Clark vein, and two air shafts from the surface to the Clark vein were also completed. Several intake drifts from the surface to the Grassy vein have been abandoned, owing to their proximity to the Grassy Island Creek, and in their stead an air shaft, some distance away from the creek, has been sunk from the surface to said Grassy vein.

A new Jeansville pump has been placed in the Clark vein, near foot of No. 1 shaft, with a capacity of 2,000 gallons per minute.

A new Ingersoll-Sergeant Duplex air compressor, 20x24 inch steam cylinder, and compound air end 33¼ inches and 20¼x24 inches was added to original air plant.

A new shaft 12x30 feet is sunk to a depth of 100 feet, to be continued until it reaches the Dunmore vein.

Three bore holes have been sunk from the surface, two to the Dunmore vein, and one to the Clark vein.

The present two inside hoisting engines, together with a large one, are to be placed on the surface, and ropes are to be run down the bore holes into the mine. This will enlarge the present capacity, eventually making this colliery one of the largest producers.

By the Pennsylvania Coal Company

Work has been commenced at both ends of a new tunnel to be driven from the Lackawanna river to No. 1 shaft, No. 1 colliery, for

Eddy Creek.—Erection of new Guibal fan 28x8 feet with new brick engine room. The shaft is being enlarged from 10x23 feet in section to 12x33 feet 4 inches. At "Birds Eye" a Guibal fan 8x3 feet has been erected, driven by electricity at a speed of 200 revolutions per minute.

Olyphant No. 2.—The 4-foot vein has been cut by two rock planes.

PENNSYLVANIA COAL COMPANY

Gipsy Grove, Outside.—New pair of 15x24 inch geared hoisting engines for shaft. Stable inside with capacity of 20 mules in second Dunmore vein. In third Dunmore vein a stable of same capacity was made.

No. 1 Colliery.—Work is progressing on installation of additional horse power Babcock and Wilcox boilers, which will increase the capacity to 1,200 horse power. A new 10-foot forced draft fan is being erected for the same; also, new Cochrane feed water heater and 12x8x12 inch duplex Scranton pump. A new water tank is being built with a capacity of 50,000 gallons. One alternating current generator 2,300 volts 7 5-10 amperes, speed 1,200 revolutions, belted to a 10x10 inch, 62 horse power McEwen engine. This furnishes power to run the drills and a 20 horse power induction motor, with 220 volts 50 amperes. The 20 horse power induction motor is located at the river end of the tunnel, about 7,500 feet from the generator and is used to run a 57 inch exhaust fan which supplies air to the tunnel. It is connected by belt to a 5 horse power dynamo which gives the direct current to the motors which run the drills. Also one Rand air compressor to furnish power to run air drills at No. 1 end of tunnel. New car and blacksmith shop 30x112 feet with 16x20 feet ell. New supply house 34x50 feet.

Water tunnel from Lackawanna river to No. 1 shaft has been driven in 1,200 feet during the year, and on the No. 1 end of the tunnel 500 feet. In the third Dunmore vein a new gravity plane has been made, section 6x15 feet and 800 feet in length. A new stable has been made in same vein with capacity of 30 mules; also new air bridge sectional area 60 feet and new 16x8½x14 inch Scranton pump.

No. 2 Shaft.—New locomotive boiler, outside. Work is progressing on new engine plant. When completed will be about 5,000 feet in length and will be operated by a pair of 15x24 inch geared hoisting engines, which are now on the foundation. New air course and traveling way have been made at No. 1 tunnel.

STERRICK CREEK COAL COMPANY

Sterrick Creek.—The new shaft 12x30 feet in section which was commenced to sink in 1903 has been completed. This shaft is sunk

IMPROVEMENTS

SCRANTON COAL COMPANY

Johnson—No improvements reported.

Ontario.—The portion of the breaker blown down by the tornado last fall, has been rebuilt and is expected to resume operations about March 12. The Raymond washery was torn down and moved to this colliery and is now being rebuilt. This will necessitate an increase in the power plant, and it is intended to add two boilers to the present plant for this purpose.

Richmond No. 3.—An additional 200 H. P. Maxim boiler has been added to the present plant. The new shaft has been named in honor of General Manager John R. Bryden, and is now known as Bryden Shaft.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Seven hundred feet of the Clark Vein Slope at No. 3 shaft have been graded; average thickness 5 feet. This was done in order to enable them to run the cars to the bottom lift of the slope.

The floors of the boiler house have been concreted; also concrete fronts at their No. 3 shaft. Four new Emery Pickers were installed in the breaker. A scraper line was constructed to convey the culm from the breaker to the washery in order to do away with the handling of cars.

DELAWARE AND HUDSON COMPANY

Eddy Creek.—Grassy Island No. 2 shaft sinking completed to the No. 4 Dunmore vein, a distance of 117 feet. The sinking of No. 4 shaft has been started and is down a distance of 50 feet. This shaft is to be used as a second opening to the No. 2 shaft.

One 78 inch locomotive boiler has been installed at the Grassy Island Washery, also a 10 inch x 14 inch engine and a 600 foot scraper line for feeding bank to washery.

Miles slope extended in rock from the Rock Vein towards the No. 4 Dunmore Vein, a distance of 750 feet. This slope is to used as a second opening to the Eddy Creek.

A 28 foot Guibal fan has been installed at the Eddy Creek. The shaft has been widened from 10 feet x 24 feet to 12 feet x 33.4 feet from surface to the 14 foot vein.

PENNSYLVANIA COAL COMPANY

No. 1 Colliery.—In 1904 work was commenced on a new brick building 16x36 to contain three rooms; office for the outside foreman, shifting shanty for the fireman and a shifting shanty for the breaker men. This work has been completed.

No. 2 Shaft, Outside.—The following buildings have been erected during the year: a new concrete building 14 feet x 40 feet with three rooms; office for the inside foreman, shifting shanty for the fireman and a shanty for the miners. Two additional locomotive boilers have been installed and a new corrugated iron boiler house 40 feet x 60 feet has been built.

Blue Ridge Tunnel.—Condition as to safety good, drainage and ventilation fair. They are robbing pillars.

Richmond No. 3 Colliery.—Condition as to safety good, drainage fair, ventilation good.

DELAWARE AND HUDSON COMPANY

Olyphant Colliery No. 2 Shaft.—Condition as to safety and drainage good, ventilation generally good.

Grassy Island Slope.—Condition as to safety and drainage good, ventilation good with the exception of the Four Foot vein. This vein is very difficult to ventilate as it is thin and the roof is continually falling in the air courses.

Grassy Island Shaft.—Condition as to safety and drainage good, ventilation fair. There is room for improvement.

Eddy Creek Colliery, Birds Eye Mines.—Condition as to safety, drainage and ventilation good.

No. 4 Drift.—Condition as to safety good, drainage and ventilation fair.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery No. 1 Shaft.—Condition as to safety, drainage and ventilation good.

No. 2 Shaft.—Condition as to safety and drainage good, ventilation fair. There is room for improvement.

PENNSYLVANIA COAL COMPANY

No. 1 Colliery No. 1 Shaft.—Condition as to safety and drainage good, ventilation fair.

No. 2 Shaft.—Condition as to safety and drainage good, ventilation fair.

Gipsy Grove Colliery.—Condition as to safety, drainage and ventilation good. This mine has been very much improved.

STERRICK CREEK COAL COMPANY

Sterrick Creek Colliery.—Condition as to safety, drainage and ventilation good. Six air bridges were built during the year, which improved the ventilation.

LACKAWANNA COAL COMPANY

Lackawanna Colliery.—Condition as to safety, drainage and ventilation good.

DOLPH COAL COMPANY

Dolph Colliery, Hackley Slope.—Condition as to safety, drainage and ventilation good.

Hannah Bell.—Condition as to safety good, drainage and ventilation fair.

MOUNT JESSUP COAL COMPANY

Mount Jessup Colliery, Peck's Shaft.—Condition as to safety good, drainage fair, ventilation good.

Grassy Island No. 4 Shaft.—Completed sinking shaft to No. 4 Dunmore vein to a depth of 740 feet, connecting with workings from Grassy Island No. 2 shaft for a second opening. Shaft was concreted from surface 56 feet down the shaft, including concrete buntons.

No. 10 Slope.—Placed an electric pump at foot of slope; installed an electric hoist to hoist coal up inside slope and lower down plane. Installed a 24 inch x 48 foot engine for hoisting on main slope, 2,600 feet long.

Eddy Creek Colliery: Eddy Creek.—Sunk shaft from Fourteen Foot vein to Dunmore No. 4, a depth of 414 feet; gangways opened on North side 120 feet and on South side 70 feet in No. 4 Dunmore.

Birds Eye.—Drilled a 6½ inch electric cable hole 120 feet from surface to Clark vein, and a 12 inch water hole the same depth a few feet from it.

No. 11 Slope.—Was driven to No. 2 vein a distance of 120 feet on grade of 20 per cent. An engine house was erected containing 3 engines; one 10 x 12 inches to operate No. 11 slope; one 10 x 12 inches to operate plane to rock dump, and one 12¼ x 15 inches to operate No. 18 plane in Diamond vein.

PENNSYLVANIA COAL COMPANY

No. 1 Colliery.—Outside. Built a 45 x 29 foot concrete building with steel truss roof, containing one pair of 15 x 36 inch engines which will operate two slopes, one to the Clark vein and the other to the New County vein.

No. 2 Shaft.—Outside. Built a concrete building 42 x 15 feet to be used as an emergency hospital, tool room and blacksmith shop.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in City Hall, Scranton, June 15 and 16. The Board of Examiners was composed of L. M. Evans, Inspector, Scranton; F. G. Wolfe, Engineer, Scranton; W. F. Malloy, Carbondale, and David Evans, Olyphant, Miners.

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

Mine Foremen

John Conway, Old Forge; Harry E. Heckman, Jessup; Leo P. Gibbons, Carbondale; William Love, Scranton; Thomas J. Gillen, Carbondale; James F. Feeney, Olyphant; Charles O'Boyle, Olyphant; Howell R. Morgan, Throop; John J. Haggerty, Scranton; Sylvester J. Kane, Forest City; George Watson, Scranton; Thomas W. Lewis, Olyphant; Benjamin Anthony, Carbondale; Edward Newton, Scranton; James Elias, Scranton; John T. Loftus, Jessup; Charles E.

Rock plane 300 feet from Four Foot to No. 2 vein.

Eddy Creek Colliery.—Tunnel, 500 feet from Diamond to No. 2 vein was completed.

In the Miles Slope, a combined pipe and traveling shaft was sunk 45 feet from surface to Rock vein.

Birds Eye Drifts.—A 12-inch water hole and an 8-inch cable bore hole were drilled 130 feet, and an electric pump installed.

Legitts Creek Colliery.—A new sump completed 600 feet in Four Foot vein; foot of shaft rebuilt in No. 3 Dunmore vein; pumping plant completed in Clark vein. Began grading and driving tunnel from Four Foot vein, for the development of Five Foot vein, north of Legitts Creek fault.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed a Duplex pump, capacity 3,500 gallons; also a 12-inch column line from pump to surface.

A rock slope, 7x12 feet, driven 700 feet, from Clark vein, is now being completed to No. 2 Dunmore vein.

A tunnel, 7x12 feet, driven 400 feet but not yet completed, through "fault" on the east side of Storrs No. 1 Shaft. Considerable repairs were also made to the breaker.

SCRANTON COAL COMPANY

On the 15th of June a new breaker commenced operations at Johnson Colliery. This was to replace the old breaker, which was considered beyond repair.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as Mine Foremen and Assistant Mine Foremen was held in the City Hall, Scranton, June 29 and 30. The Board of Examiners was composed of the following persons: L. M. Evans, Mine Inspector, Scranton; Frank G. Wolfe, Mining Engineer, Scranton; David R. Evans, Miner, Olyphant; William F. Malloy, Miner, Carbondale.

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

Mine Foremen

Edward R. Edwards, Robert L. Taylor, Thomas D. Thomas, John J. Barrett, John Johns, Nathan Dodgson, Hugh Archbald, Thomas J. Kennedy, George Watkins, Joseph Dodgson, John S. Thomas, Patrick A. Walsh, David J. Davies, Sydney Owens, William J. Gilroy, James J. Deeble, David J. Thomas, Richard Bowen, David Bowen, Thomas M. Owens, John Brooks, John Murrin, Frank Murrin.

Assistant Mine Foremen

Richard T. Williams, Frank B. Newlands, John J. Thomas, Frank Bennie, Michael J. Collican, Roy C. Craig, E. W. Searing, Thomas S. Williams, Richard Evans, Jr., Frederick Goyne, Charles F. Beecham, Samuel R. Nichols, Thomas Griffiths, William J. Myrick, Lewis A. Jones, John Richards, John Metters, William J. Evans, John J. Griffiths, Jerry F. Stanton

Grassy Island No. 2 Shaft.—Completed grading motor road about 3,000 feet toward No. 1 shaft in Dunmore vein.

Installed 4 air motors, 2 in Clark vein and 2 in Dunmore vein, for haulage.

Completed 12 inch reinforced concrete partition wall between intake and return compartments of No. 4 shaft, about 760 feet.

Bored 8 inch hole to flush ashes from boiler house directly into Rock and 14 Foot veins.

Installed new 22-36 by 25-16.5 by 12.5-7.5 by 42 inch stroke Laidlaw-Dunn-Gordon four-stage air compressor for use in motor haulage.

Miles Slope.—Replaced 150 feet of timbering with concrete and I beams, at mouth of main slope, under O. and W. Railroad.

Eddy Creek Colliery.—Placed 12 inch reinforced concrete partition wall between intake and return compartments of shaft, about 690 feet.

Completed rock plane for return of Clark vein.

Olyphant Shaft.—Completed rock plane 200 feet. Four Foot to No. 2 vein east of plane to fault.

Completed No. 12 rock slope, Rock vein to Clark vein 800 feet, cutting New County vein and 14 Foot vein.

Installed 16-25 by 25-16 by 24 inch two-stage Laidlaw-Dunn-Gordon air compressor for general use, pumping, haulage and rock-cutting.

Installed 24 by 24 first motion winding engine on surface in Smoketown to operate No. 12 rock slope.

Birdeye.—Completed No. 7 rock tunnel, 200 feet from surface to botton split 14 Foot vein.

Installed 5 by 4 Buffalo fan, and fan house, to ventilate bottom split of 14 Foot workings.

Drove rock tunnel 225 feet from Clark vein to New County vein off No. 3 slope and also rock return from same 75 feet.

Legitts Creek Colliery.—Rock plane, 12,300 feet long from Dunmore No. 3 to Dunmore No. 2 vein, for the purpose of opening Dunmore No. 2 vein.

Headings Nos. 42 and 39 to Rock vein graded to foot of No. 13 plane, for transportation.

Gangway from landing in Clark vein to pumping plant was bricked and I beams set. The same improvement was also begun in pipe-way from No. 2 pump.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed fan engine; hoist, motor, etc., at Storrs No. 3 shaft, Clark vein.

Remodeling Jeffrey locomotives. New waterway, West slope, No. 1 shaft. New plane in Fourteen Foot vein, No. 2 shaft.

Throughout the district there has been a decided improvement in the equipment. Fireproof barns have been erected at the various collieries.

MINE FOREMEN'S EXAMINATIONS

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in City Hall, Scranton, June 5 and 6. The Board of Examiners was composed

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY (INSIDE)
HUDSON COAL COMPANY (OUTSIDE)

Eddy Creek.—Ventilation and drainage good; condition as to safety good.

Von Storch.—Ventilation good; drainage fair; condition as to safety good.

Dickson.—Ventilation and drainage good; condition as to safety good.

Marvine.—Ventilation and drainage good; condition as to safety good.

Legitts Creek.—Ventilation and drainage good; condition as to safety good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Ventilation and drainage good; condition as to safety good.

Brisbin.—Ventilation good; drainage fair; condition as to safety good.

Cayuga.—Ventilation good; drainage fair; condition as to safety good.

SCRANTON COAL COMPANY

Johnson.—Ventilation and drainage good; condition as to safety good.

Richmond No. 3.—Ventilation and drainage good; condition as to safety good.

West Ridge.—Ventilation and drainage fair; condition as to safety good.

CLEARVIEW COAL COMPANY

Clearview.—Ventilation and drainage fair; condition as to safety good.

BULLS HEAD COAL COMPANY

Bulls Head.—Ventilation and drainage good; condition as to safety good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY (INSIDE)
HUDSON COAL COMPANY (OUTSIDE)
EDDY CREEK COLLIERY:

Eddy Creek Shaft.—A concrete barn was built in the Dunmore vein near the foot of shaft to hold 24 mules. A car haul, steam driven, 180 feet long, was completed in Dunmore vein to handle light cars from foot of shaft and deliver them to water level and No. 25

Eddy Creek

plane and branches. A car haul, steam driven, 140 feet long, is in course of construction in the Clark vein for the same purpose. Extended Rock slope No. 14, 300 feet on pitch of 12 degrees, in Dunmore vein, through big fault from top of Eddy Creek anticlinal into Miles basin. An air shaft, 10 by 10 feet, 40 feet deep, and fan drift 75 feet long were completed, connecting with up-cast of Eddy Creek shaft for proposed emergency fan.

Olyphant Shaft.—A second opening and return airway, 7 by 18 feet, was driven from Clark vein to Rock vein, 700 feet on 28 degree pitch. An intake shaft, 12 by 12 feet, to Rock vein, was sunk through 60 feet of wash at face of No. 25 plane near crop.

Bird Eye.—Extended No. 4 slope 150 feet through fall and graded 1,200 feet of slope in Clark vein.

Olyphant Breaker.—Installed a central power plant, comprising one 1,000 K. V. A., 25 cycle alternating generator, directly connected to a Hamilton-Corliss cross compound engine. The voltage is 2,300, and power will be furnished to mine motors in Archbald, Olyphant and Scranton districts. Steam for the plant is provided by two batteries of Sterling boilers, yielding 1,800 H. P. The whole is housed in a brick and steel structure.

Marvine Colliery.—Extended Rock plane 7 by 12 feet, from 14 foot vein to the Diamond vein 1,000 feet on a pitch of 12 degrees to lower coal to 14 Foot landing at shaft. This plane is operated by a 14 by 20 inch Flory engine, located on surface. Extended Rock plane 400 feet on pitch of 12 degrees from No. 4 Dunmore to No. 3 Dunmore vein. Built a new pump room in Clark vein, 17 by 32 by 11 feet, for locating plant to deliver water to 14 Foot vein level.

Legitts Creek Colliery.—Extended Rock plane from Rock to Diamond vein 350 feet on 12 degree pitch for handling coal in latter vein on northwest end of property.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed one 18 by 6 foot fan, including engine and fan house. Remodeled scales. Added two 5 by 6 inch plunger pumps with motors, and one haulage electric motor with reel.

Brisbin Colliery.—Installed one 18 by 6 foot ventilating fan, including engine and house. Built brick and concrete oil house. Made second opening shaft from four foot to five foot vein.

Cayuga Colliery.—Installed one 7-ton electric motor with reel in Dunmore No. 2 vein.

SCRANTON COAL COMPANY

Johnson Colliery.—Built a hospital, 12 by 14 feet, equipped with steam heat, electric lights, hot and cold water, cots and First Aid outfit.

Richmond No. 3 Colliery.—Built a hospital, 14 by 15 feet, equipped with steam heat, electric lights, hot and cold water and First Aid outfit.

West Ridge Colliery.—Built a hospital, 10 by 12 feet, equipped with steam heat, hot and cold water and First Aid outfit.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY (INSIDE)
HUDSON COAL COMPANY (OUTSIDE)

Eddy Creek.—Ventilation and drainage good; condition as to safety good.

Von Storch.—Ventilation good; drainage fair; condition as to safety good.

Dickson.—Ventilation and drainage good; condition as to safety good.

Marvine.—Ventilation and drainage good; condition as to safety good.

Legitts Creek.—Ventilation and drainage good; condition as to safety good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs.—Ventilation and drainage good; condition as to safety good.

Brisbin.—Ventilation good; drainage fair; condition as to safety good.

Cayuga.—Ventilation good; drainage fair; condition as to safety good.

SCRANTON COAL COMPANY

Johnson.—Ventilation and drainage good; condition as to safety good.

Richmond No. 3.—Ventilation and drainage good; condition as to safety good.

West Ridge.—Ventilation and drainage fair; condition as to safety good.

CLEARVIEW COAL COMPANY

Clearview.—Ventilation and drainage fair; condition as to safety good.

BULLS HEAD COAL COMPANY

Bulls Head.—Ventilation and drainage good; condition as to safety good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY (INSIDE)
HUDSON COAL COMPANY (OUTSIDE)
EDDY CREEK COLLIERY:

Eddy Creek Shaft.—A concrete barn was built in the Dunmore vein near the foot of shaft to hold 24 mules. A car haul, steam driven, 180 feet long, was completed in Dunmore vein to handle light cars from foot of shaft and deliver them to water level and No. 25

plane and branches. A car haul, steam driven, 140 feet long, is in course of construction in the Clark vein for the same purpose. Extended Rock slope No. 14, 300 feet on pitch of 12 degrees, in Dunmore vein, through big fault from top of Eddy Creek anticlinal into Miles basin. An air shaft, 10 by 10 feet, 40 feet deep, and fan drift 75 feet long were completed, connecting with up-cast of Eddy Creek shaft for proposed emergency fan.

Olyphant Shaft.—A second opening and return airway, 7 by 18 feet, was driven from Clark vein to Rock vein, 700 feet on 28 degree pitch. An intake shaft, 12 by 12 feet, to Rock vein, was sunk through 60 feet of wash at face of No. 25 plane near crop.

Bird Eye.—Extended No. 4 slope 150 feet through fall and graded 1,200 feet of slope in Clark vein.

Olyphant Breaker.—Installed a central power plant, comprising one 1,000 K. V. A., 25 cycle alternating generator, directly connected to a Hamilton-Corliss cross compound engine. The voltage is 2,300, and power will be furnished to mine motors in Archbald, Olyphant and Scranton districts. Steam for the plant is provided by two batteries of Sterling boilers, yielding 1,800 H. P. The whole is housed in a brick and steel structure.

Marvine Colliery.—Extended Rock plane 7 by 12 feet, from 14 foot vein to the Diamond vein 1,000 feet on a pitch of 12 degrees to lower coal to 14 Foot landing at shaft. This plane is operated by a 14 by 20 inch Flory engine, located on surface. Extended Rock plane 400 feet on pitch of 12 degrees from No. 4 Dunmore to No. 3 Dunmore vein. Built a new pump room in Clark vein, 17 by 32 by 11 feet, for locating plant to deliver water to 14 Foot vein level.

Legitts Creek Colliery.—Extended Rock plane from Rock to Diamond vein 350 feet on 12 degree pitch for handling coal in latter vein on northwest end of property.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Installed one 18 by 6 foot fan, including engine and fan house. Remodeled scales. Added two 5 by 6 inch plunger pumps with motors, and one haulage electric motor with reel.

Brisbin Colliery.—Installed one 18 by 6 foot ventilating fan, including engine and house. Built brick and concrete oil house. Made second opening shaft from four foot to five foot vein.

Cayuga Colliery.—Installed one 7-ton electric motor with reel in Dunmore No. 2 vein.

SCRANTON COAL COMPANY

Johnson Colliery.—Built a hospital, 12 by 14 feet, equipped with steam heat, electric lights, hot and cold water, cots and First Aid outfit.

Richmond No. 3 Colliery.—Built a hospital, 14 by 15 feet, equipped with steam heat, electric lights, hot and cold water and First Aid outfit.

West Ridge Colliery.—Built a hospital, 10 by 12 feet, equipped with steam heat, hot and cold water and First Aid outfit.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY

Eddy Creek, Dickson and VonStorch and Marvine.—Ventilation, drainage and condition as to safety, good.

Legitts Creek.—Ventilation and drainage good. Condition as to safety, fair.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs, Brisbin and Cayuga.—Ventilation, drainage, and condition as to safety, good.

SCRANTON COAL COMPANY

Johnson and Richmond.—Ventilation, drainage, and condition as to safety, good.

West Ridge.—Ventilation and drainage fair. Condition as to safety, good.

CLEARVIEW COAL COMPANY

Clearview.—Ventilation and drainage fair. Condition as to safety, good.

BULLS HEAD COAL COMPANY

Bulls Head.—Ventilation, drainage, and condition as to safety, good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY

Eddy Creek Colliery.—Installed 300 K. W. motor generator set, at head of shaft to supply direct current to electric locomotives in Eddy Creek and Olyphant shafts. Installed one 7-ton gathering electric locomotive in each of the following veins: Diamond, Clark and Dunmore No. 4. Built concrete barn in Clark vein. Started rock tunnel in Olyphant shaft to drive through "Smoketown fault" in Rock vein, to concentrate transportation of coal in this vein. Built 600 feet of 15 inch concrete wall between airway and manway compartments of second opening at No. 12 slope. Concreted, (replacing timber) "Dugans" manway connecting with Olyphant shaft, Miles slope and Grassy Island workings. Installed two 10-ton electric locomotives in Rock vein to replace three air locomotives. Laid 4,350 feet of 10 inch cast pipe from Olyphant breaker to borehole in "Smoketown," through which slug from Washery annex is pumped for distribution through two 6 inch lines inside. Installed 110 H. P. alternating current electric hoist at Birdseye on No. 4 slope in Clark vein, replacing 55 H. P. hoist. Installed one 17-foot frame Guibal type fan on Clark vein drift, replacing one 10-foot and one 8-foot fan at Birdseye. Drove rock tunnel at Birdseye 250 feet, and second opening for same 50 feet from Clark to New County vein off No. 4 slope.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY

Eddy Creek and Marvine Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Von Storch and Legitts Collieries.—Ventilation, roads and drainage, fair. Condition as to safety, good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs and Brisbin Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Cayuga Colliery.—Ventilation and condition as to safety, good. Roads and drainage, fair.

SCRANTON COAL COMPANY

Johnson and Richmond No. 3 Collieries.—Ventilation, roads, drainage and condition as to safety, good.

West Ridge Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

BULLS HEAD COAL COMPANY

Church Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

CLEARVIEW COAL COMPANY

Conklin Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY

Eddy Creek Colliery.—Completed the rock slope through the fault and started tunnel through Smoketown, Diamond vein. Installed a Goodman mining machine in the Dunmore vein. Drove rock slope to Rock and 14 foot veins in Birdseye drift.

Marvine Colliery.—The mouth of No. 1 rock slope was concreted. Rock vein was opened from No. 1 slope and also from No. 9 rock plane.

Von Storch Colliery.—A rock plane 400 feet long was driven from the Clark to the New County vein.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—Built a fireproof machine shop. A bore hole was made for suspending a cable at No. 3 shaft. Built a new washery. A tunnel was driven from top to bottom split of 14 foot vein, at No. 2 shaft. New transmission line from Hampton power plant. One shortwall coal-cutting machine was installed.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY

Eddy Creek and Marvine Collieries.—Ventilation, roads, drainage and condition as to safety, good.

Dickson, Von Storch and Legitts Creek Collieries.—Ventilation, roads and drainage, fair. Condition as to safety, good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond and Cayuga Collieries.—Ventilation, roads, drainage and condition as to safety, good.

BULLS HEAD COAL COMPANY

Bulls Head Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

CLEARVIEW COAL COMPANY

Clearview Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

SCRANTON COAL COMPANY

West Ridge Colliery.—Ventilation, roads and drainage, fair. Condition as to safety, good.

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY

Eddy Creek Colliery.—Completed tunnel, 300 feet long, through fault in Diamond bed; tunnel, 285 feet long, from Clark to New County vein; tunnel, 110 feet long, from Fourteen Foot bed to Rider; tunnel, 230 feet long, from Four Foot to Twenty Inch bed; and rock plane, 185 feet long, through fault in Fourteen Foot bed, Birdseye, and rock plane, 65 feet from Four Foot to Twenty Inch bed.

Legitts Creek Colliery.—The New County vein was opened in No. 3 shaft. Completed a tunnel, 450 feet long, driven through the fault in the Rock bed, and a rock plane, 160 feet long, from Rock to Diamond vein.

Dickson and Von Storch Collieries.—At Dickson mine a rock plane was driven 150 feet, from No. 2 Dunmore to connect with the Clark vein.

In the Von Storch section, a rock plane, 140 feet long, was driven from Top Rock to Diamond vein, and an air shaft 40 feet deep was sunk from Top Rock to Rock vein.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond Colliery.—Installed a new ventilating fan.

Cayuga Colliery.—Installed a new simplex jig; one new Hazleton jig; one new conveyor line and one 50 HP motor.

CONDITION OF COLLIERIES

DELAWARE AND HUDSON COMPANY

Eddy Creek, Dickson, Von Storch, Legitts Creek and Marvine Collieries.—Ventilation, drainage and condition as to safety, good.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond and Cayuga Collieries.—Ventilation, drainage and condition as to safety, good.

MID CITY COAL COMPANY

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

SCRANTON COAL COMPANY

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

IMPROVEMENTS

DELAWARE AND HUDSON COMPANY

Eddy Creek Colliery.—Completed a rock tunnel 96 feet long, from Rock to Rock vein, as a second opening. Renewed timber in Olyphant shaft between hoisting and air shaft, also placed new timber at foot of branch at Rock landing.

Dickson Colliery.—Completed rock plane 410 feet long, from Dunmore No. 2 to Clark vein; also Rock plane 175 feet long, from Dunmore No. 2 to Clark bed, to be used as an air return. Installed rope haulage in Dunmore No. 3 bed for a distance of 5000 feet.

Von Storch Colliery.—Completed rock plane 90 feet long, Top Rock to Diamond vein, also a plane 50 feet long, to be used as an air return. A rock tunnel was driven from Rock top split to bottom split bed, a distance of 120 feet. A plane 60 feet long to be used as an air return was driven from the Rock bottom split to the top split of the Rock bed.

Legitts Creek Colliery.—Completed a shaft, 2nd opening, 30 feet deep, from the surface to the eight foot bed; rock plane 575 feet long, from Dunmore No. 3 bed to Dunmore No. 2 bed. Installed a rope haulage in Rock bed for a distance of 4600 feet; electric haulage in Rock bed to Von Storch, a distance of 4200 feet.

Marvine Colliery.—Completed a rock plane from Diamond to Rock bed, a distance of 80 feet; another plane from the 14 Foot Top split to Diamond bed, a distance of 98 feet; also one from Dunmore No. 3 bed to Dunmore No. 2 vein.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Diamond Colliery.—In No. 2 Shaft a haulage road has been constructed in the New County vein, together with a new arrangement at the bottom of the shaft to save hauling the New County vein coal to the Clark vein. Completed an emergency hospital in the New County vein. Installed one 7-ton electric locomotive.

In drift No. 1 a 7-ton electric locomotive was installed.