

Ventilation is produced by means of a furnace, located 400 feet from main opening; the intake is located at mouth of slope, area 98 feet; the upcast is located at furnace air shaft, area 25 feet; the amount of fresh air is 16,100 cubic feet per minute; there is noxious gas evolved in the F vein; the mines are examined every morning before men go to work, and every evening to see that the main doors are all closed; the main doors are hung so as they will close of their own accord; they have attendants at main doors; they have double doors on main traveled roads, and an extra one in case that an accident would happen to any of the others; the air is circulated to the face of the workings in two splits; the amount of ventilation has been measured and reported; ventilation is good.

Machinery.—They use one pair of hoisting engines of 120-horse power, one breaker engine of 40-horse power, one pumping engine of 80-horse power, one steam pump in the slope of 20-horse power; they have a metal speaking tube in slope; they have an adequate brake and flanges of sufficient strength and dimensions attached to the sides of the hoisting drum; the boilers have been cleaned and examined and reported in good condition; they have a steam gauge to indicate the pressure of steam; also a safety valve for safety.

Remarks.—They have furnished a map of the mines; they are connected with Dodge shaft and the old slope, which can be used as second opening; they have a house for men to wash and change in; there is some standing water in the mines; the mining boss is a practical and competent man; he has a fire boss to assist him; there are no boys working in the mines under twelve years of age; the engineers seem to be experienced, competent and sober men; they do not allow any persons to ride on loaded cars in the slope; the parties having charge know their duty in case of death or serious accident; the breaker machinery is boxed and fenced off so that operatives are safe.

OXFORD SHAFT.

This shaft is located in Scranton city, about $\frac{1}{4}$ of a mile north-west of the Lackawanna river. It is 206 feet deep to the Diamond vein and 238 feet deep to the Rock vein; the opening is 22 feet by 10 feet. It is operated by the Delaware, Lackawanna and Western railroad company. John Lewis is mining boss and William H. Carling is outside foreman.

Description.—There is a double breaker attached to the shaft tower, which has 2 self-dumping hoisting carriages for the purpose of hoisting coal out of the mines; they mine and prepare about 550 tons of coal per day; they employ 57 miners, 40 laborers, 31 drivers, 11 door-boys and 19 company men in the mines; 56 slate pickers, 7 head and plate men, 5 drivers, 20 company men, 7 mechanics and 2 bosses outside; in all 255 men and boys; they have a second opening from the surface to both veins, where men and mules travel into and out of the mines; they are working the Diamond and Rock veins at this colliery, average thickness of Diamond vein is 6 feet and Rock vein 8 feet; they work their headings 12, airways 12 and chambers 30 feet wide; they leave pillars from 6 to 7 yards wide to sustain the roof; they leave cross-entrances from 20 to 30 yards apart for the purpose of ventilation; the roof is good slate; the mines are in a good working condition; the mouth of second opening is on the west bank of the Lackawanna river.

Ventilation.—Ventilation is produced by a large arched brick furnace; the intake is located at the mouth of second opening, the area is 60 square feet; the up-cast is located in air-shaft at the furnace, 900 feet from main shaft; it contains an area of 60 feet; the air is conducted to the face of the workings in both veins systematically by the aid of check-doors; the average supply of pure, fresh air at in-take is 18,000 cubic feet per minute; there is but very little noxious or inflammable gas evolved in this mine; it is never found in the mines except when a door or gate is broken and then not to any dangerous extent; the main doors are all hung so that they will close of their own accord, with an attendant at each; they have double doors on main traveled roads so as to keep up a steady current of air, and they have extra doors in case that any of the others get broken; they do not work over fifty men in any split of air; the amount of ventilation has been measured and reported according to law; ventilation is good.

Machinery.—The engines in use at these mines are 1 pair of hoisting engines, of 90-horse power, 1 breaker engine of 60-horse power, 1 pumping engine of 80-

horse power, all in engine room, and 1 hoisting engine inside of 25-horse power: they have a metal speaking-tube in the shaft; they use clevis cones and standard wire ropes; the flanges on the sides of hoisting drums are of sufficient strength and dimensions for safety; they have a good steam brake on hoisting drum; the boilers have been cleaned and examined and reported in good condition according to law; they have a safety-valve and steam gauge attached to their boilers, for the purpose of safety and to indicate the pressure of steam; the breaker machinery, screens, shaftings, cog-wheels, beltings and pulleys are boxed and fenced off so that operatives are safe.

Remarks.—The company have furnished a map of the mines; they have a house for men to wash and change their clothes in; they have some standing water in the mines but they are not working towards it; the mining boss is a practical and competent man; he has no fire boss or assistant; there are no boys allowed to work in the mines under 12 years of age; the engineers seem to be experienced, competent and sober men; there are no persons allowed to ride on loaded cars on planes around the mines; the parties having charge know their duty in case of death or serious accident; persons are prohibited by the mine regulations from riding up or down the shaft; the shaft-landings are protected by safety-gates.

CENTRAL COLLIERY.

This colliery is located in the city of Scranton, and lying about one mile northwest of the Lackawanna river. It is 176 feet deep to the Diamond vein, 202 feet deep to the Rock vein, and 320 feet deep to the G or Big vein. The opening is 34 feet by 10 feet. It is operated by the Delaware, Lackawanna and Western railroad company. John Flynn is mining boss, and S. N. Stetler is outside foreman.

Description.—There is a double breaker attached to the shaft tower; they mine and prepare about 450 tons of coal per day; they employ 58 miners, 58 laborers, 26 drivers, 8 door-boys and 22 company men in the mine; 57 slate pickers, 8 head and plate men, 3 drivers, 15 company men, 7 mechanics and 2 bosses outside; in all 257 men and boys; they are working the G or Big vein; average thickness 12 feet; they work headings 12, air-ways 18 and chambers 30 feet wide; they leave pillars to sustain the roof, 21 feet wide; they leave cross entrances 60 feet apart for the purpose of ventilation; the roof is good slate; the mine is in a good working condition.

Ventilation.—Ventilation is produced by means of a fan, located on the surface close to main shaft; the intakes are located in main shaft and Hyde Park air shaft; it contains an area of 160 feet in main shaft; the upcast is located at main shaft; it contains an area of 90 feet; the average supply of fresh air per minute is 36,500 cubic feet; they have inflammable, noxious and poisonous gases evolved in the mine; the mine is examined every morning before the men are allowed to go to work, and every evening to see that the main doors are all closed, so as to keep up a steady current of air; the main doors on headings and air-ways are hung so as they will close of their own accord, and they have attendants at each to keep them closed; they have double doors on main traveled roads, and an extra one in case that one of the others would get broken; they do not work over fifty men in any split of air; the amount of ventilation has been measured and reported according to law; ventilation is good.

Machinery.—The engines in use at this colliery are one pair of hoisting engines of 120-horse power, one fan engine of 60-horse power, and one breaker engine of 80-horse power, all in engine room; one steam pump at foot of shaft of 15-horse power; 2 pumping engines of 150-horse power in shaft engine room; they have a metal speaking tube in the shaft; they have two patent safety carriages with all the modern improvements; they have flanges of sufficient strength and dimensions attached to the sides of the hoisting drums; they have an adequate brake on hoisting drums; they use clevis cones and standard wire ropes; the boilers have been cleaned and examined and reported in good condition according to law; they have a steam gauge and safety-valve for safety and to indicate the pressure of steam; the breaker machinery is boxed and fenced off so that operatives are safe; all the machinery, boilers, &c., are new and in good condition.

Remarks.—The company have furnished a map of the mine; they are connected with the Hyde Park shaft, which can be used as a second opening; they have a

angle of inclination is $9^{\circ} 35'$. The slope was driven part of the way through coal, at a cost of \$364, but there were $28\frac{3}{4}$ yards of rock to cut, from nought up to eight feet, which cost \$283 33, and 77 yards driven through sandstone, which cost \$3,080. The whole cost for sinking the slope was only \$3,952 33. They have a pair of engines, 13-inch cylinder and 18-inch stroke; estimated horse power, 50; the size of their drum is six feet diameter, which has an approved brake attached to it. There is no second opening to the slope, but they are driving for one toward No. 1 drift, and expect to make a connection soon.

OTHER NEW OPENINGS AND CONNECTIONS.

The Delaware, Lackawanna and Western railroad company have made connections between the Hampton shaft and the Oxford shaft, at Hyde Park, and between Tripp's slope and the Brisbin shaft, in the Third ward, Scranton. They have also sunk an air shaft, at Hyde Park, into the workings of the Oxford shaft, and connects also with the Hampton shaft workings. A fan is to be placed at this air shaft which will assist in ventilating both collieries named.

The Pennsylvania coal company have completed a new slope at No. 1 tunnel, in Pittston township, which is intended for hoisting coal. They have also made a second opening for No. 4 slope, in Jenkins township, which is to be used also for ventilation; and the workings of old No. 10 shaft in the 14-foot seam, have been connected with the new No. 10 shaft, in Pittston. No. 2 shaft, Dunmore, was sunk to the lower seam.

The Delaware and Hudson canal company have made a connection, in the 14-foot seam, between Marvine and Leggetts Creek shafts, Providence; and at No. 1 shaft, Carbondale, an air shaft has been sunk, and two more air shafts at No. 3 shaft, and still another at the Coal Brook colliery. These air shafts are only poor-make shifts, unless mechanical means are used to produce ventilation. There are too many of them in Carbondale. What is needed there is a system of air courses inside of the collieries.

At the Filer colliery, Winton, a drift has been driven from a ravine into the workings, for a traveling way for the men to go to and from their work. A new drift has been opened at the Greenwood colliery for mining coal, and the same company have made an additional opening for coal at the Sibly colliery, in Old Forge township. An opening has been made at the Green Ridge slope for ventilation. The above are all the openings and connections made in the district during the year, so far as I am informed.

IDLE AND ABANDONED COLLIERIES.

The Archbald shaft, Lackawanna township, and Oxford shaft, Hyde Park, owned by the Delaware, Lackawanna and Western railroad company, were idle all through the year; the last work done at the Hyde Park shaft was done in February, and the Scranton coal company's drifts at Bellevue were idle. Bellevue slope and shaft worked only $22\frac{1}{2}$ days.

No. 1 shaft, Pittston township, owned by Pennsylvania coal company, was idle; No. 2 and No. 3 shafts were abandoned as hoisting shafts, and are now used as pumping shafts.

The Marvine shaft, Providence; Powderly slope, Carbondale township, and Breaker, Forrest and Jefferson tunnels, Carbondale City, all owned by the Delaware and Hudson canal company, were idle.

The following collieries have also been idle: Rolling Mill colliery, Scranton, consisting of a slope, tunnel and drift; the Ontario colliery, Pleasant Valley, and the Heidelberg colliery, Pleasant Valley. Spring Brook No. 1

prevent explosions in the mines will be conceded throughout the world, and when this is universally admitted these terrible explosions will cease.

PRESENT CONDITION OF THE COLLIERIES.

I am happy to be able to report that the condition of the collieries in the district, so far as ventilation is concerned, is on the whole satisfactory. There are but few poorly ventilated mines, and the number is being reduced each year.

The Delaware, Lackawanna and Western Railroad Company's mines are kept well in hand, there being only one or two that cannot be rated as first class. There is never any trouble with the mines of this company, for the gentlemen in charge of them have always shown a cheerful readiness to comply with the requirements of the ventilation act. They have one colliery at present, the Central shaft, where the volume of gas evolved is increasing to such an extent as to require an early addition to the quantity of air now provided for the workings. Gas stands in small quantity in several of the working places, and the workmen are in continual danger from explosions on a small scale. But they are driving to make a connection with the **Oxford** air-shaft, where, I am informed, they intend to erect a fan as soon as possible. This will provide all the ventilation they will need. The other collieries of this company are well provided with a liberal quantity of air, with the exception of Tripp's slope; and there is no cause for complaint, only occasionally, when the mine bosses neglect to conduct the air to the face of the workings.

The Delaware and Hudson Canal Company's mines have been greatly improved. They have only two collieries now in my district which are not well provided with ventilation, and neither of these is very bad, and I have been assured by A. H. Vandling, Esquire, that one of the collieries referred to will be provided with two fans as soon as they can be put in place this coming spring. These fans are intended for the Grassy Island shaft, Olyphant borough, and when they are erected, they cannot fail to produce ample ventilation for the colliery, if it will be properly utilized by the inside bosses. The other colliery referred to is the White Oak colliery, Archbald borough. This is an old colliery and nearly exhausted; and as the ventilation is not very bad, it would be unjust, perhaps, to require costly improvements to be made in it. The air now provided can be better utilized by attending to the inside air-courses. A shaft will soon be sunk, to take the place of this colliery, which, I am assured, will be provided with a fan from the start.

A. H. Vandling, Esquire, is entitled to great credit for doing so much to improve the ventilation of the collieries under his charge during the last four years, and it gives me great pleasure to award him the credit due him. I am free to admit, that I was impatient to have improvements inaugurated, especially in the collieries at Carbondale, for I found them in very bad condition; and, perhaps, I was too impatient under all the circumstances. I am aware that a great part of the expense incurred should have been

work the Rock seam out that was left in the **Oxford** shaft. The rock seems to be of better quality east of the shaft than on the west.

Central Shaft.

This shaft has been re-timbered, as to new buntons and guides, from bottom to top, and also a new fan put in to re-place the old one.

Oxford Shaft.

Put in new cribbing on top of shaft, and are now in process of sinking from Rock to big and Clark seams of coal about one hundred and sixty feet deeper.

Oxford Air-Shaft.

Has connected with G or big seam workings in Central mines. Put in two new hoisting engines, also a fan engine; also a new fan, twelve feet diameter by three and a half feet face. The intention is to lower the coal from the Diamond and Rock seams to the Big and hoist it up the Central main shaft. The distance to be lowered is one hundred feet. Also put in new cribbing on top of shaft.

Scranton Coal Company's Slope.

This mine has been cleaned and new rails re-laid preparatory to commence to work the Clark seam of coal, are now ready to operate. This slope has been idle for years.

No. 2 Diamond Shaft E or Diamond seam.

Are sinking a new slope from the Diamond to the Rock or F seam. The opening is seven by eleven feet in the clear. More than half the distance is already sunk.

Tripp Slope

Made an extra opening in the West mountain, by driving up the pitch about 40° for ninety feet, then sunk a shaft fifty-seven feet deep. It gives an intake for air in the extreme end of the mine workings, and an opportunity for the men to come out that way, if they feel so disposed. This shaft is one and three fourths miles from the mouth of the slope.

Brisbin Shaft.

A heading has been driven to the outcrop on the West mountain from the level gangway, and they are now grading three gravity planes to let the coal down the steep grades from the West mountain side.

Cayuga Shaft.

This shaft has been overhauled, and new cribbing put in to a depth of about sixty feet from the surface.

Storr's Shaft.

This is a new shaft, located in Dickson City borough. It is about two thousand feet northwest from the Lackawanna river. The sinking is pro-

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Belmont Mines.

There has been a new fan erected here during the year, which gives general satisfaction.

Delaware, Lackawanna and Western Railroad Company's Oxford Shaft.

Sunk main shaft from Rock vein to Clark, a distance of about 165 feet, and sunk a new air-shaft from surface to Clark vein, 354 feet; 10×26 feet for ventilation, and to hoist men and let down material. We will set a fan over this one, and a fan at the old, or main shaft, to ventilate part of it and all of Bellevue slope, so as to leave Bellevue fan for Bellevue shaft alone. The slope at Diamond shaft E vein is completed, and working all right. At the Brisbin shaft we have two of the gravity planes we alluded to last year, all ready and working. The third one is very near ready. At Cayuga shaft we are driving a tunnel, or plane, from G to Diamond vein, to let down the coal to G vein. Expect to be ready in 1883. At Sloan shaft we are resinking from G vein to Clark; are also sinking a second opening from G to Clark—size, 8×10 feet in the clear. We intend to make this to that men can go up or down. Storrs shaft being sunk 416 feet, we are now opening gangways in G or big vein 285 feet down. Not developed yet.

Yours, respectfully,

B. HUGHES.

SCRANTON, *March 6, 1883.*

PROVIDENCE, *February 23, 1883.*

PATRICK BLEWITT, Esq.,

Inspector of Coal Mines:

DEAR SIR:—The following are the improvements made in and around the D. & H. C. Co.'s mines for the year ending December 31st, 1882:

Coal Brook Mines.

Have graded a new gravity plane to let coal down on north-east side. Have driven seventy feet of rock tunnel, 7×9 feet, to open No. 3, or four-foot vein from Lackawanna tunnel, in bottom coal on a level with breaker. Have about 600 feet of heading cut in coal.

No 1 Shaft.

Have graded a new gravity plane to let coal down on north-west side.

Powderly Slope.

Commenced pumping out water October 20th; are also building schutes and outside plane.

Jermyn No. 1.

Have finished sinking inside slope to basin. Put up a new 17-foot fan, by four-foot face, on air-shaft that was being sunk last year.

Grassy Island Shaft.

Have sunk fan-shaft, 11×14 feet, 252 feet deep to the Grassy Island vein.

Referring now to diagram No. 1, the line a b is the common boundary. The mine workings and the line in black are as determined by the engineer of that mine. The mine workings and line in red are as determined by the engineer of the mine. It is assumed that the dividing line is not well established on the ground, as is often the case. Now a b and a b are in reality the one and the same line; the two positions shown are owing to the difference in the opinions of the engineers. It will be further noticed that the workings in black are fifty feet from the line of the same color, and the workings in red are also fifty feet from its corresponding line. On this account the parties interested have some reason to believe that a barrier pillar of 100 feet is reserved. However, owing to the fact that the position of lines overlap by twenty-five feet, the barrier pillar is less than 100 feet by the amount of the overlap.

The duplication of the survey of the underground workings does not reveal this error. Diagram No. 2 shows the barrier pillar as it will appear when the tracings of the adjoining mines are put together. The line a b is placed on a b for comparisons, and, consequently, the pillar will appear to be 100 feet wide, when in reality it is twenty-five feet less. It, therefore, seems apparent to the writer that such lines should be surveyed by the engineers of the adjoining properties in conjunction.

Seeing that it has been well established that a very few feet may mean a "material" error in such cases as we have quoted, it seems that some means of testing the lengths of tapes used in such important work should be provided in all mining centers. In addition to such standards of lengths, suitable and convenient "bench marks," from which tidal elevations may be carried, together with a fixed line from which, by comparing the bearings as given by the various instruments used, the declinations of the magnetic needle may be ascertained with little labor.

The benefits to be derived from the provisions of the foregoing are manifold.

Collieries which Have Resumed Operations During the Year 1899.

The Delaware, Lackawanna and Western Railroad Company's Sloan and Central mines and the Sloan breaker resumed operations during the latter part of the year. During the long suspension of work at these mines, the two shafts, namely, the Central main hoisting shaft and the Sloan hoisting shaft, have been sunk to the Dunmore veins, and improvements in the breaker have also been effected.

Breaker Rebuilding.

The **Oxford** breaker, which was formerly owned by the Delaware, Lackawanna and Western Railroad Company, and which was de-

stroyed by fire in April, 1898, is about to be rebuilt by the People's Coal Company, of Scranton, which will operate the colliery in the future.

Washeries.

A number of washeries have been built during the year, and others are in course of construction.

Colliery Improvements During the Year 1899.

Following will be found a brief description of the improvements made in and about the mines of the district during the year. Other items of similar work have been omitted, owing to the inability to collect the particulars of the same. Therefore, the statement does not cover all the new work done during the year to facilitate development, transportation, ventilation and drainage.

Delaware, Lackawanna and Western Railroad Company.

Archbald Mine.—The work of installing a main and tail system of haulage in the Rock vein is in progress. This will require 9,000 feet of rope; the grade is regular for the most part, and in favor of the loaded trips. The engine which will be used is 16x36 inches.

A pair of first motion engines have been erected and are ready for use to hoist in the main shaft; dimensions 22x48 inches. These will take the place of the geared engines formerly used.

A new tunnel is in course of construction, its dimensions are as follows: 7 feet by 14 feet by 300 feet long. It will connect the Rock and Diamond veins on a grade of 5 per cent. when finished.

Sloan and Central.—These shafts have been sunk from the Clark to the Dunmore vein. The work of developing the latter named vein has not yet been commenced beyond the sinking.

Cayuga.—There has been installed at the above mine an electric haulage plant, which is now in operation. The power house is located on the northerly side of breaker on the same elevation as the hoisting engines.

The engine is a McEwing design and built by the Ridgway Engine Company, of Ridgway, Pa. Its rated horse power is 305, stroke 16 inches; bore of cylinder, 10 inches; speed, 240 revolutions per minute. The dynamo or generator is of the Westinghouse Electric Company make. Its speed is 500 revolutions per minute, voltage 250, amperes 600.

The current generated is transmitted to the interior workings of the mine by a four naught insulated wire, where three electric motors of the General Electric Company's make, weighing thirteen tons

Cayuga.—A new Duplex pump, 28x12x36, has been installed in the "Fourteen Foot" vein, and is now in operation.

Bellevue Shaft, etc.—The main shaft (12x18 feet) has been sunk from the Clark vein, a distance of one hundred and thirty-seven feet into the Dunmore No. 2 vein.

The **Oxford** inside slope has been driven a distance of eighty-eight feet, from the New County vein into the Clark vein. A tunnel has been driven from the Clark into the Big Vein, height sixty-five feet.

Electric Haulage.—An electric haulage system one thousand feet long has been installed in Dunmore No. 2 vein.

The following extensions were made to haulage systems in use before 1904, namely: G. gangway No. 3 tunnel, 900 feet; No. 2 slope, Dunmore No. 2, 1,100 feet; M. gangway and Sloan road, 4,350 feet; No. 1 County vein, 1,000 feet.

Shaft Concreted.—The cribbing in the supply shaft has been replaced by concrete.

New Electric Motors and Pumps.—Four new electric motors have been added during the year, making a total of eight in the mine. A new electric pump has also been installed at the foot of the supply shaft, and two other and similar pumps at other points in the same mine.

PENNSYLVANIA COAL COMPANY

No. 5 Shaft.—A rock plane was driven from No. 3 Dunmore to No. 1 Dunmore vein. Length 330 feet; section 7x14 feet. Also a new car and blacksmith shop was built outside; dimensions 30x60 feet.

A number of the other operators have made similar improvements during the year, but have not thought it proper to report the particulars to appear in this report.

Mine Foremen's Examinations

The annual examinations for candidates for certificates as mine foremen and assistant mine foremen were held June 10 and 11, in the City Hall, Scranton. The following persons were recommended for certificates:

Mine Foremen.—W. W. Inglis, Thomas Barber, Lucien F. Hiorns, Frank E. Shedd, William Campbell, Henry Davies, H. D. Powell, William P. Kelly, Henry J. Williams, William P. Jennings, Martin F. Sheridan, John Moore, George W. Oswald, Isaac Dawe, John H. Watkins, Henry H. Hitchings, Thos. J. Williams, Jos. Morris, James J. Cusick, Thos. W. Watkins, James Tibbs, Peter Comtesse, Jr., Thomas Malloy, Jos. R. Burns.

Assistant Mine Foremen.—Edward Dempsey, David James, James Cooney, Martin Quinn, James D. Robinson, John J. James, Martin Corcoran, John J. McDermott, Wm. Morgan, Anthony Gallagher, Jno. E. Phillips, Fred. E. Carpenter, Benjamin Evans.

Sloan Colliery.—The new air-shaft was sunk a distance of 336 feet during the year.

Bellevue Colliery.—New annex to breaker under construction. Two Triplex Plunger pumps installed. Two low vein coal-cutting machines installed. New concrete mule barn inside.

Dodge Colliery.—New locomotive house. (Outside.) One additional electric locomotive installed. One new 750 gallon fire-pump installed. New concrete mule barn inside. New wash-house.

Holden Colliery.—One additional electric locomotive installed. One additional boiler installed. New wash-house. New concrete barn inside.

National Colliery.—Rock tunnel, No. 2 to No. 1 Dunmore vein. New wash-house. New concrete barn inside.

This Company is to be commended for its efforts in educating its non-English speaking employes. Colonel R. A. Phillips, the General Manager, conceived the idea of having pictures taken in the mines showing how accidents occur and how they are prevented. Two hundred of these pictures appear in book form with simple statements. The book was prepared under the direction of Colonel Phillips and Mr. C. E. Tobey, Superintendent of the Coal Mining Department, and ten thousand copies have been printed and will be distributed to groups known as extension schools in the various mining communities.

The company is promoting this educative work through the local branch of the Young Men's Christian Association.

SCRANTON COAL COMPANY

Capouse Colliery.—All inside buildings reconstructed of incombustible material.

PEOPLES COAL COMPANY

Oxford Colliery.—New mule barn inside constructed of incombustible material.

New breaker was erected south of the site of the old breaker with a capacity of 1,500 tons daily, equipped with the most modern machinery of every kind.

CARLETON COAL COMPANY

National Colliery.—New breaker erected, capacity 100 tons daily. Began operations December 12.

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, April 15 and 16. The Board of Examiners was composed of the following persons: H. O. Prytherch, Mine Inspector, Scranton; John P. Corcoran, Superintendent, Rendham; William J. Jenkins, Miner, Scranton; James W. Reese, Miner, Scranton.

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

PEOPLE'S COAL COMPANY

Oxford Colliery.—New mule barn built inside of incombustible material, and electric lights installed in barn and at foot. One gasoline motor installed.

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, April 15 and 16. The Board of Examiners was composed of J. T. Reese, Mine Inspector, Scranton; John P. Corcoran, Superintendent, Rendham; William J. Jenkins, Miner, Scranton; James W. Reese, Miner, Scranton.

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

MINE FOREMEN

Joseph, Hosker, Joseph R. Linney, Stephen Burner, Coyne; John R. Jones, Adam Newell, Howell Powell, John Griffiths, Samuel Harts-horn, Robert Scott, Harry B. Watkins, Roland Samuel, John P. Reese, John S. Cole, Caradoc Thomas, Anthony Zurowski, Michael T. McGraw, Benjamin Hughes, Richard J. Hawkins, John J. McHugh, Robert A. Timlin, John Richards, Scranton; David W. Francis, Daniel Reynolds, Taylor; William Williams, Throop; Patrick F. Kelly, Old Forge; Frank E. Law, Wyoming; John L. Robertson, Moosic.

ASSISTANT MINE FOREMEN

John Pearce, Thomas B. James, George Hodges, Sidney Miller, William Mildiz, Mathias Gehen, Thomas Fenton, Edward Phillips, Scranton; William Phillips, Taylor; William A. Gallagher, Rendham.