

ROARING BROOK COLLIERY.

This colliery is located in the borough of Dunmore, and lying one and one-half miles south-east of the Lackawanna river. The shaft is 211 feet deep to the upper vein, 246 feet deep to the middle vein, and 294 feet deep to the lower vein; the opening is 10 by 21 feet. It is operated by the Roaring Brook coal company. J. R. Davis is general mine superintendent, Patrick Mongan is mining-boss and C. W. Baxter is outside foreman.

Description.—There are two breakers connected with these mines—one is connected to the shaft tower, in which they prepare coal for local coal sales, and the other is forty-five hundred feet south-east, connected by a plane and railroad to the shaft; it is situated on the southern division of the Delaware, Lackawanna and Western railroad; they mine and prepare about 650 tons of coal per day; they employ 70 miners, 70 laborers, 49 drivers, 7 door-boys and 37 company men in the mines; 35 slate pickers, 6 head and plate men, 8 drivers, 30 company men, 13 mechanics and 3 bosses outside—in all 327 men and boys; there was a large fall in the lower vein on the 31st of December; they are working these veins, which are called Nos. 1, 2 and 3 veins; average thickness of each 5 feet; they work headings and air-ways from 10 to 12, and chambers about 33 feet wide; they leave pillars about 13 feet wide to sustain the roof; they have cross-entrances about 25 feet apart, for the purpose of ventilation; the roof is of a schaly and fire-clay nature, which is effected by being exposed to the air, as it causes it to break up into small particles, becomes dangerous, and requires a great deal of care and timber to secure it; the mines are not in a good working condition at present.

Ventilation is produced by means of a furnace, located two hundred and twenty-five feet from main opening; the in-take is located in main shaft, area 160 feet; the up-cast is located in furnace air shaft, area 80 feet, and the amount of fresh air is about 28,000 cubic feet per minute; the main doors are hung so that 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 of an accident to any of the others; the air is circulated to the face of the workings in three splits; the amount of ventilation has been measured and reported; ventilation is generally good.

Machinery.—They use two hoisting engines at shaft of 70-horse power, 1 pumping engine of 60-horse power, 1 breaker engine of 10-horse power running small breaker, 1 breaker engine of 35-horse power running large breaker, 1 engine for hoisting the men, of 25-horse power, 2 engines for hoisting up planes of 40-horse power; they have a metal speaking-tube in the shaft; they have two safety-carriages, with all the modern improvements; they have an adequate brake, and flanges of sufficient strength and dimensions for safety, attached to the sides of the hoisting drum; they use standard ropes and links; the boilers have been cleaned and examined, and reported in good condition; they have a safety valve to indicate the pressure of steam.

Remarks.—They have furnished a map of mines; they have a second opening, located 225 feet from main opening; they have a house for men to wash and change in; the mining boss seems to be a practical and competent man; there are no boys working in the mines under 12 years of age; the engineers seem to be experienced, competent and sober men; they do not allow any person to ride on loaded cars in the mines; they do not allow over ten men to ride on the safety carriage at one time; the parties having charge know their duty in case of death or serious accident; the shaft opening is protected by safety gates; the breaker machinery is boxed and fenced off, so that operatives are safe.

GIPSY GROVE COLLIERY.

Description.—This colliery is located in the borough of Dunmore, and it is situated 2 miles south-east of the Lackawanna river; the shaft is 60 feet deep to the First vein, 102 feet deep to the Second vein and 167 feet deep to the Third vein; the opening is 12 by 18 feet; they are also working 4 tunnels, namely, Finnerty's, Swartz's, Smith's and Sawyer's; the shaft and the 3 tunnels first mentioned are working in the Dunmore upper vein, and the last mentioned in the Clark vein; the average thickness of each vein is 4½ feet; they work headings 10, air-ways 15

and chambers 30 feet wide; they leave pillars about 15 feet wide to sustain the roof; they leave cross-entrances from 20 to 30 feet apart for the purpose of ventilation; the roof is good slate and sandstone in the Dunmore upper vein, and bony coal and slate in the Clark vein; there are no chambers opened in the shaft or Smith's tunnel yet; they have second openings to all the workings; the mines are in a good safe working condition.

Ventilation is produced by means of furnaces; the furnace in the shaft is located 900 feet from main opening; Finnerty's tunnel, 850 feet from mouth; Swartz's tunnel, 800 feet from mouth; Smith's tunnel, not working now, and in Sawyer's tunnel 200 feet from mouth; the intakes are located in the shaft and in the opening of all the tunnels; the areas of intakes and upcasts vary from 40 to 60 feet; the amount of pure fresh air at shaft is 3,200, at Finnerty's tunnel is 9,560, at Swartz's tunnel is 6,357, at Smith's tunnel air is not measured, and at Sawyer's tunnel is 6,200 cubic feet per minute; there is no noxious or inflammable gas evolved in the mines; the main doors are hung so that they will close of their own accord; they have attendants at main doors; they have double doors on main travelled roads; the amount of ventilation has been measured and reported; ventilation is good; the air is circulated systematically to the face of the workings; the air currents are good, but not sufficient to keep the mines clear of powder smoke; as the veins are low and the coal hard, it requires a large amount of powder for the miners to complete their day's work.

Machinery.—There is no machinery required at any of the tunnels, as they are driven so as to drain the workings; they use 2 engines at the shaft, 30-horse power each; one is used for hoisting, and the other to run the breaker machinery; also a large pumping engine, — horse power; they have a metal speaking tube in the shaft; they have a safety carriage, with all the modern improvements; they have flanges of sufficient strength and dimensions for safety attached to the sides of the hoisting drum; they have an adequate brake on hoisting drum; 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 and safety valves for safety and to indicate the pressure of steam; the breaker machinery is boxed and fenced off so that operatives are safe.

Remarks.—This colliery is operated by the Pennsylvania coal company. William Bryden is mine superintendent, Jas. M'Millan is mining boss and William Jennings is outside foreman. There is a double breaker attached to the shaft-tower; they mine and prepare about 430 tons of coal per day; they employ in the shaft 10 miners and 6 laborers, and outside 30 slate pickers, 18 head and plate men, 8 drivers, 2 company men, 7 mechanics and 2 bosses; at Finnerty's tunnel 32 miners, 32 laborers, 7 drivers, 3 door-boys and 3 company men in the mines and 2 outside drivers; in Swartz's tunnel 10 miners, 8 laborers, 2 drivers, 1 door-boy and 1 company man, and at Sawyer's tunnel 20 miners, 20 laborers, 4 drivers, 2 door-boys and 2 company men in the mines and 2 drivers outside; in all 227 men and boys; they have furnished a map of mine; they have a house for men to wash and change their clothes in; the mining boss seems to be a practical and competent man; there are no boys working in the mines 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 over 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; the shaft-landing is protected by safety-gates.

THE SCREENS IN DUNMORE

are located at the head of plane No. 6, on the loaded track of the Pennsylvania coal company's railroad. They screen and clean the coal here which is shipped from the different mines belonging to the company which have no breaker connected with them; they employ 73 men and boys working about the screens; they cleaned and screened in the year 1872, 148,403 tons of coal; they use 1 engine here of 40-horse power.

shafts where the "coal breaker and chute buildings are built directly over and covering the top of the shaft." I admit that in this case there was neither "breaker nor chute buildings directly over and covering the shaft," but there was an engine-house and tower for hoisting the coal out of the mine, and a wooden stack, forty feet high, over the shaft and furnace, and connected with the engine-house. I held that the intent and purpose of the mine ventilation act was what its title indicated: "An act to provide for the health and safety of persons employed in and about coal mines." The intention of the act where it provides, section seven, that "*in no case shall* a furnace be used in the mines where the coal breaker and chute buildings are built directly over and covering the shaft, &c.," is to prohibit the use of a furnace where there is danger from fire from wooden buildings, no matter what name the buildings may be designated by. Ten thousand feet of lumber will burn as readily in an engine-house, tower, and stack, as if it were used in a "breaker and chute buildings," and no one will deny but that the result, under the same circumstances, would be equally disastrous in the one case as in the other. Holding these views, I wrote to John B. Smith, Esquire, the general agent of the company, on the 7th of May. On the 17th of May, I went to see what had been done, and finding the colliery still in operation, I again communicated with Mr. Smith, and the colliery was stopped, and, in the course of a few weeks, the furnace was removed, and a seventeen feet fan was put in in place of it.

The other case was at the Green Ridge slope, Dunmore, operated by Messrs. Riley & Johnson. In the latter part of June they developed an immense feeder of carbureted hydrogen gas, which was being conveyed with the air current to all parts of the mine, making the atmosphere of the whole mine within a trifle of being in an explosive state. Mr. J. P. W. Riley, who was then superintendent of the colliery, wanted permission to wall up the gangway and air-way in which the gas was escaping, and when I went there on the 2d of July to examine it, I found a gang of men engaged in digging a foundation for the proposed wall. Of course I at once stopped such a reckless plan, and I gave explicit orders not to resume work until they had put in a fan to provide the necessary amount of air to dilute the gas and render it harmless. I had asked Mr. Riley to improve the ventilation of this mine on the 14th of April, and again on the 29th of May, but he elected to disregard all my appeals; hence, I had no other safe course left but to close the colliery. This was done, and, in about three weeks, a fan was put in on an air shaft, which they had already sunk, and the volume of air was increased from almost nothing to from fifty thousand to seventy thousand cubic feet per minute. This put the mine in a safe condition, and, with the understanding that the air-ways would be immediately improved to conduct the air through the face of the workings, I allowed them to resume work.

I might have procured injunctions to close a large number of collieries, for the want of proper ventilation. All the mines of the Delaware and

"serious." The law says: "Whenever loss of life, or SERIOUS personal injuries, to any person shall occur, by reason of any explosion or other accident whatever, in or about any coal mine or colliery, it shall be the duty of any party in charge of such coal mine or colliery to give notice thereof forthwith, by mail or otherwise, to the inspector of coal mines and collieries for the district," &c. And the question arises, What constitutes "serious personal injuries? and who can tell what degree of injury a person must suffer to make it *serious*? I have known cases where the injuries were considered too slight to report at the time of their occurrence, which in a few days resulted in death; and I have therefore requested that *all* accidents, however slight they may appear, be reported immediately to the inspector. This has been done all through last year, and the list is larger on that account.

But there is another cause for the increased number of those accidents. For the greater part of the time during the year, the mines were working only on alternate weeks—one half working one week and the other half the next—and the miners were, therefore, under considerable disadvantage to keep the condition of their working places in their minds. They might one day detect a slant or break in the roof or coal, but after being idle for a week they would forget all about it, and not think of it again until it would fall, injuring either them or their laborers, or perhaps both. The ratio of accidents for half time, or irregular working, is always greater than when the works run constantly and regularly.

Improvements in Ventilation.

I have labored hard through the whole year to secure extensive improvements in the ventilation of such collieries as I was forced, in my report for 1876, to pronounce far from being up with the requirements of the mine ventilation act. Considerable improvements have been effected, but I was in hopes, at the beginning of the year, that much more would have been done during the year than has been done; still, taking all things into consideration, the improvements have been numerous and important. The condition of the coal trade has been so unsettled, and the demand for coal so irregular and limited, that the collieries have only worked a little over half time, so that it was very hard to prevail with the corporations and individual operators to lay out any money on the ventilation of their mines. I have in all cases refrained from using severe measures to enforce my demands, and have only issued peremptory orders to suspend work in two instances, and in both instances my orders were complied with without forcing me to apply to court for injunctions. In each of these cases my reason for stopping the collieries was that there was immediate danger to life. The first was No. 4 shaft, **Gipsey Grove** colliery, Dunmore, owned and operated by the Pennsylvania Coal Company, where a furnace was located at the bottom of the hoisting shaft. The defense made for putting in a furnace there was that, the law only prohibits the use of furnaces in

vein. Headings and air-ways have also been driven, but the greatest progress has been made in the top or first Dunmore seam. A new breaker has been built 1,160 feet east of Shaft No. 1, but there has been no coal run through it yet, owing to the dullness of the coal trade.

Shaft No. 4, "Gypsy Grove."—We are grading a new plane to cut off Hale's upper gangway. It is located about seven hundred feet from the D. & H. C. Co. line on the Horsefield tract, in bottom seam of coal.

Shaft No 5.—We have about completed a plane on the northeast side of shaft in No. 3 seam. It will be about 800 feet long and driven on a course of S. 50° E. We have also commenced grading another plane in No. 2 seam driven on the same course as the plane in No. 3 seam. It is located on the southwest side of shaft. An incline was driven through the anticlinal that exists between shafts Nos. 2 and 5 for the purpose of a second opening and drainage. This passage connects the bottom seam of No. 2 Shaft with the first Dunmore seam in Shaft No. 5. This does away with all pumps and other machinery at Shaft No. 2, which was abandoned September 1, 1888.

Hillside Coal and Iron Company.

Clifford Colliery, with a capacity of 1,000 tons of coal per day, was completed. This plant is made up of a breaker with the latest improvements, simplified as much as possible, keeping in view three essentials, sufficient height to pick out slate and rock before the product reaches the rolls, and to avoid putting through the rolls anything that had been broken in the process of mining; a shaft 12'x30' opening and 300 feet deep has been finished. It is operated by a pair of 22"x36" direct acting engines equipped with two Dickson safety carriages; a slope for second opening 360 feet long to hoist rock, of which, owing to the thinness of the seam, there is a great quantity, and for a manway. The breaker is located 700 feet from the shaft. The coal is hauled from the shaft to the breaker, and the empty cars hauled back by a wire rope haulage.

Erie Shaft.—A slope 250 feet long for a second opening and for a manway has been finished on the west side of the Lackawanna river.

Glenwood Shaft No. 2, to the Archbold vein was completed; the total depth from the head to the foot is 350 feet. A pair of direct acting engines, 22x48, with two Dickson safety carriages, is the motive power. A fan 18 feet in diameter by six feet face has been erected to ventilate Glenwood No. 1 Shaft, and it is run by an engine 16x36. Rope haulage is used at this colliery. At all the collieries of this company electric lights are in use in and around the breakers. They were first put in as an experiment at the Erie breaker and they were so complete a success that their general introduction soon followed. The arc light is used, and coal can be cleaned by its light even better than by daylight.

Pennsylvania Coal Company.

At **Gypsy Grove** a new shaft to be used as a second opening was sunk from the surface to the third Dunmore vein a distance of 60 feet; area of shaft, 80 square feet.

Murray Coal Company.

Completed the slope begun in 1892, total length of which is 2,500 feet, with an area of 117 square feet; angle $3\frac{3}{4}$ degrees.

Pancoast Coal Company.

Sunk their hoisting shaft to within a few feet of the Clark vein, making a total depth of 428 feet; size of shaft is 10x34 feet.

They also sunk their man shaft to the bottom split of "G" vein, and intend to continue sinking it until the Clark vein is reached.

Delaware, Lackawanna and Western Railroad Company.

At Storrs, No. 2, a tunnel from the big vein to the Diamond is being driven; length, 444 feet; area, 72 square feet.

At Storrs, No. 3, a new slope 1,450 feet long, having an area of 98 square feet and an angle of 4 degrees was completed and put in operation.

Jones, Simpson & Co. sunk a new air shaft 40 feet deep; area, 100 square feet, which made a much needed improvement in the condition of the ventilation in the drift workings.

A new slope was also sunk by this company a distance of 550 feet on a grade of 8 degrees, with an area of 104 square feet.

The Sterrick Creek Coal Company completed two new planes; length, respectively, 175 and 280 feet, each on a grade of $8\frac{1}{2}$ degrees.

New York and Scranton Coal Company sunk a new air shaft a distance of 250 feet, with an area of 120 square feet.

A new tunnel was also driven by this company from the surface to the Dunmore vein, a distance of 1,000 feet.

The Elk Hill Coal and Iron Company, at Richmond, completed their new plant begun in 1892, including a new breaker, a shaft and slope.

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

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

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.

No. 1 Shaft, Inside.—One 10-inch bore hole from surface to third Dunmore vein for steam line; this will do away with steam line in the shaft. Also one 3-inch bore hole to second Dunmore vein, both of which are to be used for rope haulage on slopes. New slope in second Dunmore vein 6 feet x 12 feet has been extended 450 feet.

No. 2 Shaft, Inside.—Engine plane in second Dunmore vein extended 400 feet.

Gipsy Grove, Inside.—One 10-inch bore hole from surface to third Dunmore vein, one 3-inch bore hole from surface to third Dunmore vein. One Dunmore pump 102 plunger, 30-inch stroke, to be used for the purpose of pumping water to supply No. 1 washery.

STERRICK CREEK COAL COMPANY

Sterrick Creek Colliery.—A steam boiler plant, consisting of four 250 horse power Maxim boilers, was erected to replace the two small plants, which consisted of one high and low pressure plant. The foundations of the new boiler house are of concrete and the building is constructed of gray brick, with iron roof trusses and corrugated iron roof. The boiler foundations are constructed of building stone, and the boiler settings of red brick.

MINE FOREMEN'S EXAMINATIONS

The following persons having passed a satisfactory examination were granted certificates of qualification:

Mine Foremen

Frank Good, Scranton; William Lewis, Scranton; Thomas J. Moyle, Simpson; James Horan, Carbondale; George T. Williams, Peckville; Joseph J. Munley, Dickson City; Herbert Spencer, Carpenter, Scranton.

Assistant Mine Foremen

David D. Morgan, Peckville; Isaac Morgan, Scranton; Andrew H. Smith, Jr. Scranton; Edwin S. Jones, Scranton; Joseph A. McCabe, Blakely; Thomas D. Llewellyn, Peckville; James Stephens, Taylor; James H. James, Olyphant; George W. Morgan, Olyphant; Charles J. Latcham, Scranton; Edward R. Edwards, Olyphant; John Brooks, Olyphant.

1911, through inhalation of carbon monoxide, the direct cause of which was the burning of a hoisting engine house at the head of the North slope in the No. 2 Dunmore vein of the Pancoast colliery, the flames from which communicated with contiguous timbers in the entrance to the engine house and communicated from thence to the roof supports and cars in the main haulage way, causing vast volumes of smoke to be driven into the China vein by the great velocity of the air current from the fan. We declare that the cause of the fire is unknown and have no hesitation in saying that we believe overzealousness of the management to put out the fire in the engine house, and forgetfulness to a degree for the safety of the men in the mine contributed largely to making this accident so appalling.

Edward F. Blewitt,
Foreman of the Jury.

Enoch Williams,
Robert Gillard,
John P. McDonough,
William E. Lewis,
James Grady.

Scranton, Pa., May 8, 1911.

MINE FIRE AT THE GIPSY GROVE BREAKER

A very unusual accident occurred at the Gipsy Grove breaker. A coal chute in the breaker caught fire in some unknown way and two of the employes at the top were killed. As several other persons were at the top when the alarm of fire was given and made their escape, it is presumed that the men who lost their lives could have escaped also if they had availed themselves of the opportunity afforded them and not delayed too long. An inquest was held in connection with the accident at which many witnesses were examined.

Some of the testimony is given herewith, together with the report of the Inspector of the district, the report of the Coroner's jury and the verdict of the jury.

TESTIMONY OF WITNESSES AT INQUEST

John Taylor testified in part as follows: "I am the hoisting engineer at Gipsy Grove mine and have been since 1871. The first I heard about the fire was when the headman, Michael Walsh, whistled down and said, 'There is a little fire down in the breaker somewhere.' I walked to the window and saw some smoke away back at the rear end of the breaker. I looked on possibly a minute or two, and telephoned down to the footman, 'You may as well take the car off the cage and come up to the landing with the other footman, as there

was a little fire in the breaker, not much, and they should not get excited.' He said, 'All right.' While waiting two, three or four minutes for the footman to ring to me, he had already rung that he was going to get the men out, somebody whistled from the head to let them down. I said, 'All right, boys! Just as soon as I get the bell from the bottom.' So I waited probably not half a minute, when they whistled again to send up the cage. I said, 'All right,' and rang down to the footman, and while I was ringing to the footman, the headman and two or three others ran in. The headman said, 'It is all up;' another hollered that I should tell the men in the mine to get out the other way, through No. 1. I called then on the men in the bottom vein, and again to the men in the second vein; then called to the men in the top vein that they should go out through No. 1. By the time I got through talking to the men in the mine, the whole thing was in a blaze and I had to clear out myself. In my opinion, from the time I was notified of the fire, it was not more than five or six minutes before the fire reached the head house."

Floyd Munson, the outside foreman, testified in part as follows:

"About 4.15 P. M. one of the men ran and told me that the breaker was on fire, and I ran and hollered to the engineer to have him whistle that the breaker was on fire, and I went on with the rest of the boys and got the hose, started the water on, and we ran it, I should judge, about three or four minutes, when I saw the fire was getting the best of me; and then I ran and told Mr. Taylor, the engineer, to notify the men in the mine that the breaker was on fire. When I used the hose I hollered to the headmen, Dykes and Early, (they stood at the window) that the breaker was on fire, and as I saw four or five of the headmen come down, I thought Dykes and Early had come down along. One of the headmen, McHale, came down and helped with the hose. There was only one hose connection on the ground, with 150 feet of hose in three lengths of 50 feet each. There was another hose connection in the breaker, and about 80 common fire extinguishers in the breaker and there were men trained to handle them; besides, there were nine barrels of water inside the breaker. There were nine men working on the top and seven of them escaped; they wall ed down the steps. The men that lost their lives could have escaped, as the other men did, had they started in time."

Harry Miller, weighmaster at the top of the breaker, testified that he had worked as a weighmaster at Gipsy Grove about one year, and that he was not at work on the day of the fire. He said: "There were five exits from the head of the breaker. I knew four of them, that is, besides the trap door. There was one down along the lump coal chute, one on each side of the screen room; the other way was down by the cage in the shaft. I considered all of these exits in case of emergency such as this fire."

Michael Walsh, a headman, testified in part as follows: "While I was working I saw two men running to the breaker, and I asked Tony Battiste what was the matter. He said 'Fire.' Tony pushed a car off the cage and ran over to the hose, and I told the hoisting engineer that we would not be ready for a little while, as there was a fire somewhere outside, but I did not know where. Then I went to the office to see John Dykes and was going back to the shaft to get

two pails to help quench the fire. When I was running back to the office young Stephens came up and hollered 'Mike! Mike! let us down!' I then telephoned the engineer to let us down, and the engineer hoisted the cage off the fan, and we all got on the cage. No sooner did we get on than we had to get off again, as the fire came on us. We all ran to the window, and three of us got stuck in the window. I caught a timber and pulled myself in and climbed down on the timbers inside the breaker and down to the ground. I never thought of the trap door, as I was very much excited. From the time we heard of the fire until we tried to get through, I think it was no more than two minutes."

John Dykes testified in part as follows: "I was weighing coal that day on the head, and I heard a little excitement outside and looked out of the window and saw Floyd Munson and Charley Engle pulling out the hose. I said to John Early, 'I believe there is fire somewhere.' Both of us stepped out of the door and around the corner, and we could see a little smoke rising from the lump coal chute. I said, 'John, we will take our sheets down in case there is a bad fire.' So we grabbed our sheets off the table when Harry Stevens ran up and said, 'Come on! The place is on fire.' We all rushed to the carriage waiting for us and the headman gave the signal. The heat was so strong we were driven off the carriage towards the window where three of us got stuck. Then John Early, Battiste and I turned around, and as we did the fire took our breath away. So I followed John Early, who was trying to screen his head by a board, and then saw Battiste fall back against the shaft and let himself fall on a trap door there. I then caught hold of the shaft rope, and put my legs around and slid down until I struck the carriage at the foot of the middle vein and rolled off. My head and hands were badly burned and I was choked up with the smoke. With others I went out through No. 1. I knew of the trap door and had gone down that way, but as the carriage was there I naturally thought it would be the best way to go down. I was familiar with the fire apparatus in the breaker and was a member of the fire company."

Gerald McHale testified in part as follows: "I run the engine on the head. The first I knew of the fire, I happened to look out of the window and saw a railroad conductor run into the office. The men there ran over to the pump house and started to pull out the hose, and at once I saw some smoke. I ran over to the barrel and filled a water pail and ran down to the fire and threw it on. By that time the fire started to rush in on me, so I went down the steps to the ground and started up through the breaker, up the other way, to help pull out the other hose in the screen room. When I got into the screen room, I couldn't go any farther, as the smoke was rushing in on me, so I had to turn around and go to the ground again. I did not notify the men at the head of the fire when I saw it first, or they could have gone down as I did, but I didn't think the fire would amount to as much as it did."

Harry Stevens, oiler, testified in part as follows: "I was sitting in the shanty looking out of the window and heard somebody holler 'Fire!' on the outside, and I ran down and got a pail of water and ran on the roof and threw the water on the roof. Then there was only a little blaze. All at once it shot up and drove me back off the roof, and I ran into the plates, and as I was going up the steps I met Tony

Mack and I hollered 'Tony, go back.' We all ran back and the fire was right after us, and we got on the cage and Mike Walsh gave the signal to lower the cage, but the engineer didn't let us down. We were on the cage about twenty seconds when we were driven off by the blaze. We then ran for the window and Mike Walsh got out first. I hollered to Tony Mack to get out of the way and I jumped out of the window head first. I am sixteen years past."

Tony Mack testified in part as follows: "I am sixteen years of age. I pushed the truck on the head. When the fire started I was at McHale's engine until some one, I think it was McHale, ran for a pail of water; so he hollered to me 'Fire!' so I ran to the hose and turned the valve. Then I saw smoke and flame coming and Harry Stevens came and said: 'Come on back, there is a fire!' So Mike Walsh called us back to the carriage. He phoned the engineer to let us down and he said 'All right,' but the cage didn't move. Then Walsh said: 'Come on, Tony; let us jump out of the window.' I followed him and we got stuck in the window, two or three of us, and we had to jump to get out."

David Gilgallon testified in part as follows: "I am the breaker engineer at Gipsy Grove. Some one came to me and told me to blow the whistle for fire. I blew the whistle five times and I could hear the whistle just as plain as I ever heard it. I don't know how soon after the fire started I blew the whistle, but I blew it when Jerry McHale notified me and he is one of the employes at the head. I have been a breaker engineer here for fifteen or sixteen years and am well acquainted with the lower part of it, but am not familiar with the head house part."

Jacob Gromlich testified in part as follows: "I am the foreman at No. 1 breaker and happened to be on the outside and I saw a little fire there, and I telephoned to No. 1 shaft that Gipsy Grove breaker was on fire, and then went up to Gipsy. The fire was pretty well under headway when I got there. The distance I covered was about 2,500 feet. By the time I reached the breaker the hose was burned and there was no water being put on the fire."

Dominic Lally testified in part as follows: "I used to drop light cars and weigh them. On this day I was at my work weighing cars when somebody hollered 'Fire!' and George Engle came and said, 'Munson, there is fire in the lump coal chute.' We ran for the hose in the pump house. When the hose was stretched, Munson said, 'Lally, you take hold of the hose, and I will go over to the engineer and tell him to stop the breaker and blow the whistle,' and in about a minute afterward I heard the whistle blow. The water was on in about two minutes after we discovered the fire."

Seth Watrous testified in part as follows: "I am a carpenter at Gipsy Grove. I was down at No. 1 shaft when I saw the fire in the lump coal chute. I went over to the breaker at once, but it took me possibly ten minutes to walk that distance, and when I reached there the fire had reached the head. There was no water being put on when I reached the breaker. The hose had been burnt."

In answer to a question, Watrous said: "There are four pairs of stairs going down out of the breaker that I know of, besides the carriage way. There was one at the lower end of the lump coal chute, one on each side of the breaker and one down just under the plates."

Charles Engle testified in part as follows: "I am a carpenter at Gipsy Grove. I was in the shop when I heard some one holler 'Fire!' and I ran out to the pump house to help get the hose out. When I got there Munson and Lally were there. I went to the pump house and found the pump working all right. I stood watching the fire about a minute and said: 'Boys, she has got the best of us,' so I went back to the shop to gather up my tools. I don't think it could have been more than a minute and a half after I discovered the fire before we got the water on the fire."

REPORT OF THE INSPECTOR

This breaker took fire from a spark from a railroad locomotive which was passing with some loaded cars from No. 1 colliery about 4.15 P. M. Thursday, April 27, 1911. I arrived on the scene at 5.20 in the afternoon. Having gone through the Pancoast affair I was anxious about the workmen inside, but the officials assured me that the men were all safe, except two that were missing in the breaker. I noticed that the fire had burned the pump room down and disconnected the pipe line and put the pump out of commission. At that time they were working on a line of hose from the washery pump at the No. 1 colliery some distance away. I could see that there was not sufficient hose. So I went and phoned to Chief H. F. Ferber of the Scranton Fire Department and asked him if he could send me some hose. He very kindly responded by sending three of the men of the Scranton Fire Department and three thousand feet of hose with instructions that they were to remain at the fire until they were discharged by me. We worked all night and got the fire out near the opening to the shaft. With some of the mine officials I then went inside to investigate the conditions surrounding the foot of the shaft, and while doing so we found some human bones in the sump, which we believe were those of Tony Battiste judging from their size. About two o'clock the next afternoon while we were investigating around the top of the shaft at the surface we came across some more human bones which we believe were those of John Early. The only way we could identify them was that Early was small and Battiste large.*

REPORT OF THE CORONER'S JURY

James F. Saltry, M. D.,
Coroner, Lackawanna County, Pa.

Dear Sir:—

We, your jury, empanelled to investigate the cause of the death of three men from a fire which destroyed the breaker of the Gipsy Grove Colliery of the Pennsylvania Coal Company in Dunmore Borough, Pa., April 27, 1911, submits its report as follows:

This jury was sworn Friday, May 12, 1911, and the following day, Saturday May 13, went to the site of the destroyed breaker in company with Mine Inspector D. T. Williams to obtain knowledge as to the location of the breaker, fire hydrants, pump house, shafts and engine house and such information as would enable the jury to intelligently understand the testimony of the witnesses sworn at subsequent hearings. The jury has insistently and conscientiously endeavored to the best of its ability to ascertain all information which might enable

*Peter Clapp, headman, jumped from burning breaker at time of fire and died April 30. Early was not an employe of the company.

the jury to arrive at a fair and honest conclusion based solely upon the facts as established by the evidence of the witnesses subpoenaed and who testified in this case.

At the outset this jury unhesitatingly declares that the preponderance of the evidence plainly discloses that the three men who perished should not have lost their lives in the breaker fire; their deaths were, we believe, avoidable. As to the cause of the fire neither the officials of the colliery nor the workmen summoned as witnesses before the inquest have been able to explain. From their sworn testimony the jury has only ascertained that the fire was discovered at the end of the lump coal chute and that the flames spread with startling and fatal rapidity to the top of the breaker where the victims of the fire were employed. But the cause of the fire must be unexplained.

It has been testified by the witnesses that the fire was permitted to gain destructive headway before the customary fire alarm was sounded from the breaker engine house whistle. This circumstance, standing of itself, would point convincingly to negligence on the part of the officials.

Early, Battiste and Peter Clapp were notified of the fire and had they started from the breaker at that time they could have escaped in safety.

Verdict of the Jury

The verdict of this jury is that John Early, Tony Battiste and Peter Clapp came to their death through their misunderstanding the probable seriousness of the fire. That they were apprised of the fire in time to have left their place of work is shown by the weight of the evidence adduced at this inquest. It has been established that at least three of their co-workers employed in the same part of the breaker knew of the fire even before the fire whistle blew, and that these three co-workers escaped from the breaker. The uncontradicted testimony of John Dykes, Gerald McHale and Harry Stevens is that they were aware of the fire, and had seen it from their place of work at the time it started, and that Early and Battiste were notified of the fire and that had they started from the breaker at that time they would have escaped in safety.

The jury feels, however, that severe censure is merited by Gerald McHale for his conduct in leaving the breaker without warning his co-workers of the fire, and that Harry Stevens should be criticised for failing in a duty, which like McHale, he owed to his fellow employes.

Jury:
Thomas Genil,
W. J. Costello,
W. P. Cronin,
Thomas Allison,
John Ruane,
Patrick Murry.

Pennsylvania No. 5 Colliery.—Erected new hay barn on the outside constructed of corrugated iron. One Duplex slushing pump 24x8x36 installed in a building constructed of corrugated iron on the outside; one 21x20 automatic engine with connections to a 240 K. W. and D. C. generator; one 8x10 McEwen generator with 100 ampere for lighting purposes. Installed on the surface in a building constructed of corrugated iron, one electric hoist, 30 H. P., to handle coal in the No. 1 Dunmore vein in the old No. 2 shaft section. At old No. 2 shaft one 18-foot fan was installed in a building constructed of corrugated iron, to ventilate the Clark No. 1 and No. 3 Dunmore veins. One electric hoist, 25 H. P., installed in No. 1 Dunmore vein to handle coal on slope. One electric hoist, 25 H. P., installed in No. 3 Dunmore vein to handle coal on slope.

Gipsy Grove Colliery.—Old Gipsy Grove breaker destroyed by fire on April 27, 1911. Erected a new head frame and constructed coal pockets of concrete and corrugated iron, from which the coal from the Gipsy Grove mine will be dumped and conveyed to the Pennsylvania No. 1 breaker. Erected a new engine house, carpenter shop and wash-house of wood on the surface.

SCRANTON COAL COMPANY

Pine Brook Colliery.—A rock tunnel 6x12x92 feet long on a pitch of 45 degrees was driven through fault from Dunmore No. 2 vein connecting Dunmore No. 2 vein. A rock tunnel 7x12x240 feet long on a pitch of 2 degrees was driven from Dunmore No. 2 vein connecting Dunmore No. 1 vein. Sunk a shaft for second opening 10x10x30 feet deep from Dunmore No. 1 to Dunmore No. 2 vein. Erected concrete fireproof barn. All pump-rooms, engine houses, emergency hospitals and foremen offices inside of mines are of incombustible material.

Mount Pleasant Colliery.—Erected new fireproof barn of iron and concrete. All pumphouses, engine houses, emergency hospitals and foremen offices inside of mines are of incombustible material.

West Ridge Colliery.—Erected a new second opening provided with 360 feet of steps to be used in an emergency in case the steam plant is put out of commission. Cleaned up and provided a new return airway along side of slope, 2,000 feet long, as a traveling way for men and mules.

Also added during the year fire escapes to the breaker, beginning in the tower and continuing down on the outside of the breaker to the ground; also installed other escapeways from the screen rooms making two escapes from this point.

PRICE-PANCOAST COAL COMPANY

Pancoast Colliery.—All barns, engine houses, pump-rooms and air-bridges have been made absolutely fireproof. Fire escapes have been built on both sides of the breaker. A tunnel has been driven from Dunmore No. 4 vein connecting with Dunmore No. 2 vein as an additional outlet from both veins and traveling way. Two 6-inch bore holes have been sunk from the Surface to the Clark vein 430 feet deep for slushing culm into the old workings. One new No. 10 Knowles pump has been installed at the No. 2 Dunmore vein to help take care of the extra water caused by slushing.