

COXLODGE Coxlodge, Northumberland. 6th. March, 1863.

The colliery had two shafts, the Regent which was a downcast and the Jubilee which was an upcast shaft and they were about 700 yards apart. There was also an connection underground with the old pits at Fawdon. A new furnace was installed under the direction of Mr. Maddison, the chief viewer at the colliery about two years before the disaster. There were then about 11,000 cubic feet of air per minute passing down the Regent shaft and at the end of Leonard Cross Cut it was divided and about 9,000 cubic feet per minute passed down the Cross Cut and round the workings where the men worked with candles. It was here that the explosion was thought to have taken place.

George Short was in the mine at the time of the explosion. He heard the gas explode and immediately went out of the pit. He did not know where the explosion had taken place. Joshua Turner, a hewer who lived at Kenton said the explosion had made him deaf and he had not yet regained his hearing. As he tried to get out of the pit he met afterdamp at the top of the cross Cut. He ran back and met James Richardson and they tried again to get out but were beaten back. Other men joined them including Hann the deputy. Some of them wanted to lie down in a tank of water as they saw this as their only chance. They went on and found a stopping that had been blown down. Turner begged men not to leave him but six ran away but one man with a lamp stayed with him and they wandered about, lost in the pit before they eventually found their way out.

A deputy, William Hann of Fawdon Square, felt the explosion as a heavy shock along the roller way in which there were eleven men at the time and he went back to see if the men were out. Eight of them escaped. We met afterdamp in the headways. There was just one man with us, Ralph Cowley, as the others had run away. They found am alive on the Cross Cut. Hann said to him 'Is that Bob?' He moaned. Hann said, 'Come, man , there is life yet' I put my hand on his face and said, "I have done all I an for you, I will bid you farewell" and the man died. Hann went on and passed the corpses and told Cowley to go on as best he could. He then fell over a dead horse and called for help. He later assisted in getting the bodies out of the mine.

Mathias Dunn, the Inspector of Mines, requested a copy of the plans of the colliery from the viewer to submit to the coroner's jury but he could not get the required plans as the viewer, the local Agent, Mr. Bower and the proprietor refused. Mr. Dunn commented in his report-

"This dreadful affair took place for want of caution on the part of someone connected with the management, who permitted naked lights and the gas lamps to be worked simultaneously whilst they were taking off the pillars."

The men who died were-

Thomas Nichol aged 19 years, hewer.

Robert Rowell aged 21 years, hewer.

Thomas Patterson aged 19 years, putter.

Isaac Balmbra aged 18 years, flat-boy.

William Harrison aged 16 years, drawer.

Robert Hann aged 16 years, drawer.

George Waugh aged 14 years, driver.

Mark Simpson aged 20 years, putter.

William Reed aged 13 years, driver.

George Pattison aged 16 years, driver.

George Ramsey aged 14 years, driver.

Robert Wealings aged 15 years, driver.

Matthew Short aged 13 years, trapper.

Robert Hutton aged 12 years, driver.

Robert Bell aged 37 years, a married hewer with six children.

Michael Bell aged 17 years, hewer, son of Robert.

Thomas Baker aged 36 years, married with six children.

David Mole aged 31 years, a married hewer with two children.
Thomas Hooper who was dragged from the pit alive but died later that afternoon.
Robert Maughan aged 13 years a drawer. His father was killed nine years before while firing a shot in the pit.

Those who were injured-
Robert Stonehouse, burnt, Walton aged 19 years, hewer and
William Kenrick, a boy who was a driver.

The inquest took place at the Brandling Arms Inn, Bulmans Village before Mr. Stephen Reed, the coroner for South Northumberland and proceeding opened at 10 a.m. The room was filled with miners and others who were interested including several fathers and other relatives who had lost loved ones in the explosion.

The coroner called witnesses and the first was Mr. Maddison, the head viewer of the colliery and had been in the post since 27th. June 1860 and he told the court that the mine was worked with naked lights and safety lamps. He had never had any complaints from the men about the ventilation of the mine and he thought it adequate. He was down the pit once or twice a week. There were approved rules displayed in the Office at the colliery and the men who wanted them had copies. He was down the pit on the Monday before the accident and examined the whole of the workings and found them safe.

Mr. Dunn considered that the gas escaped from an old bord at the top and fired at a candle in the northern most bord. Mr. Dunn questioned Maddison closely. The latter said that there were not goaves because there were pillars of coal there and Mr. Dunn pointed out that they could make gas and they were not ventilated.

George Turnbull of Fawdon Square, a deputy at the colliery, was the next witness. He had been in his post for four years. He was down the pit on the day of the explosion and inspected all the places including a place where Robert bell, Michael Bell, Edward Ramsey and Robert Stonehouse were working. He thought the gas had fired in Bells place. All the men were working with naked lights. He stated that about ten minutes before the explosion he had fired a shot. The coroner questioned him as to the safety of shot firing in the mine and he answered that the men got more coal in less time with less labour. The coroner commented-

“Well you are there to give information but I can give my own opinion, and I think it would be better for the men and owners to be content with less coal rather than run the risk of firing shots.”

George Short of Kenton had worked at the colliery for fifteen years and he thought the ventilation was always good and he had not seen gas in the mine. He did not know where the gas came from but said that there was prop drawing taking place and the gas could have come from these operations. Edward Greenwell was working with Short and he said that their lamps were blown out by the explosion. They had been working for some time with candles and none of the men were worried about this. Thomas Ramshaw, a hewer of the Shoulder of Mutton, Coxlodge who had worked at the mine for about ten years said the ventilation was improved when Mr. Maddison came to the colliery.

One hewer, John Collinson, who had worked at the colliery for 26 years but was not employed there at the time of the inquiry said that he thought the ventilation of the colliery defective and on being further questioned by the coroner, said that the practice of shot firing and the use of candles in the mine as dangerous.

Thomas Emmerson Forster was requested by the owners to make an inspection of the colliery after the disaster and he came to the conclusion that Bell's place had holed into an old bord that had been partially filled with rubbish and the gas that had lodged there had fired at Bell's candle.

The Coroner summed up the evidence and said that the thing that they jury had to consider was this:-

"If they thought that there was any negligence on the part of the management of that colliery, or if anything was wanting, the only thing he could say was, that the deputy at the time had it in his power to withdraw the men. They would consider whether there was nay want of attention on his part whether there was a purely accidental occurrence which nor foresight could prevent. In the course of his remarks Mr. Reed said that, as far as his judgement went, he would not have naked lights at all he would explode them altogether and explode smoking."

The jury retired for about five minutes and the foreman gave the following verdict-

"That David Moore and eighteen others on the 16th. day of March were accidentally killed in an explosion of gas in the Leonard's Cross Cut district of the Coxlodge colliery and they recommend that the use of naked lights be discontinued. The jury exonerate all the officials from blame."

The Coroner asked Dr. Thompson of Jarrow and Dr. Thornton of Coxlodge how the survivors were and they said they were doing as well as possible but were in a somewhat precarious state.

BOTALLACK. Botallack, Cornwall. 18th. April, 1863.

Nine men and boys lost their lives when the chain drawing their carriage to the surface, broke and the carriage careered down the shaft, colliding with timber at the bottom. In articles in '*The Cornish Telegraph*', the site and setting of the mine are described in vivid detail:-

"The scene of the disaster was Botallack, a mine renown throughout the world for its metallic treasures and its romantic situation. Worked under the sea since time immemorial, Botallack has always had an interest for us as a hive of submarine interest. Its romantic situation, its machinery lashed by the waves of the Atlantic and the specimen it has afforded of industry and perseverance successfully battling against the inert obstacles of Nature, have always made it a favourite resort of the tourist.

To describe the cause of this calamity it will be necessary to speak of a gigantic piece of recent engineering work on this mine. Approaching the cliffs from the manor house of Botallack passing, and at every step, descending, by account and store houses, thundering 'stamps' and busy 'floors' with mining tackle and erections of wood and stone every here and there, the edge of the cliff is at last gained and you look down at the lowest engine house, the Crowns, so called from its proximity to three rocks of compact hornblende known as 'The Crowns'. This is by the water's margin, on your left. In your downward pathway stands a newer edifice. it is a winding engine house. There is powerful machinery inside, with a system of leverage by which the winding process may be stopped or checked promptly. as you skirt the side of this house, you perceive a massive cage, round which in many a coil rests an iron chain, which hangs across one of the numerous coves the waves have here fashioned, and enters a wooden-framed orifice in the opposite cliffs. You may pass over this 40-fathom indent in the rocks by a platform of massive beams, inclining from one precipice to another at an angle of twenty two and half degrees, and you then pause before the square tunnel of uninviting aspect. Down those darksome passages, its sides dripping and a faint stream of exhalation constantly emitted from its throat into the open air you now enjoy, many a visitor, impelled by curiosity as a love of the new, as well as by the faculties it gives from penetrating the earth, has passed.

(From here) we are hurried into the long sinuous tunnel, by which a uniform angle throughout of thirty two and a half degrees and in a direction 10 degrees West of North, passes you (in 14 fathoms) under the bed of Neptune, and carried you a distance of 400 fathoms and a depth of 192 fathoms into the Earth's recesses. This is the Boacawen diagonal shaft. You may explore it afoot, but why weary yourself? Just below the cage and its burden of chain is a skip of tram-carriage, one end

attached to the series of iron links which bandage the cage. It is long and low and its four seats will just hold eight persons. It is 2 feet 6 inches high but the shaft before you is 6 feet in height and there is no fear of a knock on the head. Its low wheels promise immense strength and enough speed. It is made of cast iron, you need not mistrust its power: It carries 16 hundredweight comfortably. Nor need you doubt the chain that binds you to the engine. The first 200 fathoms are of links of the best charcoal iron, half an inch in diameter. Its next 100 fathoms are 9-16ths and its last 100 fathoms, the whole being three tons in weight, are 5-8ths of an inch thick, the entire length welded and prepared by the Messrs. Holman at their busy foundry near. But lest a link should part see this ingenious contrivance to check our steel carriage instantly! A spiral spring of immense power of fixed under, and at the back of the skip. It communicates with a lever which rises like the handle of a beer engine in front of wagon, also with two immense claws, their inner edges serrated, which run one on each side of the rails, which rails are two feet seven and a quarter inches apart. Your conductor releases that lever from a catch and holds it in his hand. Supposing that he felt that your course was too impetuous he would let go the lever wholly. It flies towards you with a clang. Each rail has been caught by crab-like nippers with a giant's wrench. Your car is fixed.

For those safeguards were are indebted to Captain John Rowe, of this mine. It is ingenious, and over and over again, experimentally and in emergency, has not failed. So now, trusting yourself to all this strength and precaution, away with you down shaft. Nine angles will you turn as you follow the corner bed of a copper load which lay once between the blue kilfas and the red decomposed kilfas but has made room for this veritable underground railway. There is a clank of chains and a rush of air, sometimes chilly, sometimes warm, as you descend, but on whole, you glide smoothly downwards until you have 1,100 feet of rock between you and boulders of sea-bed. You can alight and inspect the wonders of mine.

But this immense and expensive tunnel, made by an outlay of thousands of pounds, was not intended for visitor's convenience. To draw the worthless deads and valuable ore to the surface, and to save the exhausted miner the depressing toil and the frequent accident of the ladder-way, were primary objects. By its means, it is hoped, great depth may be obtained and this part of the mine well developed. But to Science and Labour has to be added Experience, ere perfection be gained. Oh! woeful pity that Experience should be bought by the sharp severance of life and the groans of widowhood and orphanage."

On the day of the accident, the miners descended to the various levels by the tramway, each load having a captain aboard the skip, who held the brake level in his hand. On Saturday afternoon three parties had to come up. They assembled at the 165 Fathom Level and 'first come first served' was the order of the day. . Nine were in the skip when Thomas Wall. jnr. came up and said a lad named Chapple must come out as he, Wall,, must attend a funeral. The load got to the surface safely and Chapple was now with his father. The skip had reached the 135 Level when a link of the chain near the mouth of the shaft, parted and struck the signal wire at the side of the shaft and as it parted the wire struck the sign for the engineman to stop and the machinery stood still. The chain was seen to bound from the shaft mouth and the miners at the 165 Level heard the fearful rush of the released carriage and its human cargo with the attached chain. The shaft was filled with dust and sparks and those in the mine guessed the fate of those on board. Some of them went to the surface and some went down.

Those who went to the surface found that John Gilbert, the engineman and John Wallis who was filling a skip, sent word of the accident to the managers by messenger. Mr. S.H. James was on his way home from the smelting works. Mr. S.H. James jnr., had left for Scilly and Captains Hocking and John Rowe, engineers of the mine and Captains John and Henry Boynes, underground agents, were at the accounts house. The first thoughts of these men was that the brake would hold and the men would be safe.

Captain Boynes got to the mine and went down the shaft and was told that all the men had gone to the bottom and had been killed.

The news soon spread and thousands of people gathered at the mine and Captain Boynes working with parties below and three fathoms above the 190 Level they found the body of Richard Nankervis, a lad. A little further on they found the body of John Eddy aged 17. he had been frightfully crushed. The rails finished at the 192 Level and a diagonal shaft was partially sunk, 17 fathoms below this but not cleaned up and railed. A beam projected at the 190 Level to facilitate the loading of the skip and the carriage could not possibly go below this. It had crashed into this beam with great force and inflicted severe head injuries on the men in the skip and killed them all. It took hours to recover all the bodies and transfer them to their homes.

Those who lost their lives were:-

John Chapple aged 50 years of Naucherrow who left a widow and several children. He was a widower and his wife a widow when they re-married.

John Chapple aged 16 years, his eldest son.

Peter Eddy aged 17 years of Nancherrow, the son of a widow with six or seven other children.

Michael Nicholas of Botallack who left a widow and seven children.

John Eddy of Botallack aged 18 years.

Thomas Wall aged 46 years of Carnyorth who left a widow and several children.

Richard Wall aged 19 years, his son.

Thomas Nankervis of Trewellard. He had worked in the Wheal Hazard part of the mine but this was his first day in this mine.

Richard Nankervis of Bojcwyan.

The inquest was held following Tuesday before Coroner Mr. W. Hichens, at the Queen's Arms Inn at Botallack. After viewing the bodies at the homes of deceased, the jury re-assembled at the account house, Botallack.

The first witness was Thomas Nankervis who said:-

"I am a miner of St. Just and Botallack. I was at work on Saturday last in 160 Level of Crown part of mine, where I saw all the deceased men and boys. They left for work and got into tram at the 160. I put my little brother, Richard William Nankervis, into the tram and saw the party start. I never saw them again until I saw them dead at 190 Level. I saw fire pass down shaft, I suppose from chain, but no skip or men. I heard a rush as if a wagon was going with great swiftness and then thought it my duty to go and see after those I knew to be killed. Within three or four fathoms of 190 I found my brother, nearer the 190, John Eddy, John Chapple and his son, one on each side of wagon two or three fathoms below that, Peter Eddy in wagon, his body and head hanging over, and the other four one upon the other within two or three feet of the wagon. All were dead. My brother Henry said to brakesman. *'Take care, your shoulder is too near the brake'*. The brakesman was Thomas Wall who answered, *'It's all right.'* No one altered their position and the skip started."

Captain John Rowe, one of the mine agents, gave details of the machinery at the mine and James Eddy told the court that the machinery had been working perfectly on Thursday. The jury requested a few minutes for deliberation and found:-

"That we have found a verdict of 'Accidental Death'. We recommend that a subscription fund be opened of behalf of the widows and orphans and that the adventurers be requested dot head the list."

The jurymen expressed their confidence in the machinery and pronounced them efficient. The adventurers subscribed £50 and the inquiry ended.

THE PARK. Neath, Glamorganshire. 26th. June, 1863.

The colliery was about two miles from Neath and was owned by Thomas and Company.. The agent was Mr. Moozley and the overman at the colliery, William Thomas. On the morning of the disaster the men were making their way to work as usual when a terrific explosion was heard in the workings. Most of the men were able to get out of the colliery uninjured, but six men lost their lives.

Mr. Evans, the Inspector, was able to inspect the colliery a short time after the disaster and found that the only means of ventilation in the mine was a small fan on the surface which conducted the air through wooden pipes about six feet in sectional area and there were no facilities to conduct the air to the working places. He found that the whole colliery was in an explosive state and the workings had not been examined before the men went to work and this was a clear breach of the 1st. General Rule.

Safety lamps were used in the mine but the majority of them were unlocked and many were without their tops. The men had often found gas in the workings when they went to work and they remove it by brushing it out of their stalls with their coats. The Inspector commented-

“The manager must have been aware of the condition of the mine, as he was a man of considerable practical experience. I had upon many prior occasions warned him of the necessity of paying strict attention to the use of lamps, and more particularly to the observance of the first general rule.”

Those who lost their lives were-

Francis Jenkins, aged 18 years, collier.
Richard Edwards, aged 54 years, collier.
Thomas Griffith, aged 41 years, collier.
Thomas Arnold, aged 18 years, collier.
William Lewis, aged 21 years, collier.
George Davis, aged 29 years, collier.

At the inquest, the jury after hearing of the deplorable state of the mine, returned a verdict on the men of '*Accidental Death*'. The Inspector took proceedings against the manager of the colliery and the highest penalty which the law allowed was imposed on him. He was fined £20.

MORFA. Port Talbot, Glamorganshire. 17th. October 1863.

The colliery was owned by Messrs. Vivian and Sons and was the largest colliery in that part of the South Wales coalfield, producing about 190,000 tons of coal a year. Several coal seams were worked at the colliery and they dipped sharply to the north. All the seams were worked through the same shaft but there were separate arrangements underground to make each seam a separate colliery. It was in the parish of Margam three miles from Port Talbot station and eight miles from Neath. It was leased to and worked by Messrs. Vivian and son with Mr. Pendarvis Vivian was the resident partner.

The shafts were sink to one hundred and two and one hundred and twenty fathoms with some of the levels as far as nine hundred yards from the shafts. The mine was known to give off gas and was know as a fiery mine which required great care in it's working. The colliery employed hundreds of men and boys and the underground workings extended for miles. It raised six hundred tons of coal a day which was shipped to Port Talbot, Neath, Britain Ferry or Swansea. The coal was bituminous coal and the highly prized Welsh Steam Coal.

Everything that could have been done was done in the interests of safety and no expense was spared by the proprietors. There had been only two fatal accidents in the past ten years before this explosion. Eight years before sixteen lives were lost and five years before four workmen had been killed in the pit.

The workings of the Nine Feet mine were about 300 yards from the shaft bottom and there was an engine to pull coal up the incline to the shaft. The ventilation passed down

the engine bank and split to the east and west, passed through the working places and went to the upcast shaft through the main airway. At the bottom of the upcast shaft there was large furnace and several engine boilers.

The coal was worked by pillar and stall as was the usual practice in South Wales at the time. Exploring drifts were worked on each side of the engine bank to the boundary and all the coal was worked back to a convenient distance from the incline. This system had great merits as all the coal was extracted, the ventilation was brought directly to the working places and the only goaf that was left was at the extreme end, along the edge of which there was strong current of air.

The explosion occurred shortly after 10 am. on Saturday morning in the west side of the Old Mine Foot seam when there were four hundred men in the mine and five hundred yards from the bottom of the shaft. There were forty three men and boys in the heading at the time and thirty eight died, either from burns or the equally fatal afterdamp.

The local population knew only too well what had happened and they had gathered at the pit head. There were rumours in the valley that one hundred and fifty lives had been lost and many more injured. Happily this proved to be incorrect but the grim total came to thirty eight. The great majority of those in the pit had got out alive. Many of them uttered 'Thank God' as they reached the surface and saw their loved ones.

The pit was not greatly damaged and only the Nine Foot workings were involved in the explosion. Air doors were blown down and there were extensive falls of roof. Foul gasses had to be cleared and many men volunteered to go down the pit and render assistance to their dead and dying comrades. Colliers from the Cwnavon colliery deserved special mention in the Inspectors report as they risked their lives to save one man.

Several of the survivors recorded their experience in the explosion. An old man named Stephens was almost flattened by the explosion and he had a twelve years old son in the mine, whom he went to search for him but was driven back by the afterdamp. After further attempts he got to the place where he knew his son was working and found him dead. The body was brought out of the mine in a sack, carried by his father.

A man named Williams was working with his son who was overpowered by the gas and collapsed. His father caught his boy in his arms and although he was very weak he carried him for a few yards but then was compelled to drop his load. He went to the bottom of the shaft to save his own life. Both father and son were got out alive but the son died later.

William Grey, the manager of the colliery who had been there for fifteen years, was in the heading at the time of the explosion he was knocked unconscious but later came to his senses and brought some men to safety. He was carried out by men that stopped him working and he could scarcely walk. The doctors at the surface were Mr. Pritchard, the works surgeon and Mr. Russel of Cwmavon.

Seven men were got out alive but in an exhausted state and two of them died within a few minutes of them being got to the surface. Twelve bodies have been recovered and it was thought that there were twenty four still in the pit. By Monday twenty three had been removed but there were still about ten bodies in the pit.

The explosions blew away the timbers and in some cases the arches that were supporting the roof causing very large falls that had to be cleared before the bodies in the workings could be recovered. The work took a long time and the last body was recovered only at the end of November.

A list of the dead that had been brought out of the pit was published in the local papers:-

Thomas Lodwick a married man,

Thomas Thomas married,

William Grey single,

Thomas Morris married,

David Grey single,

John Thomas married,

Thomas Thomas married,

Thomas Morris married,
David Morgan single,
Thomas Hunt married,
William Hopkins single,
Nathaniel Williams married,
Thomas Richards married,
Hopburn Richards single,
William Lewis married,
John Arford married
William Prosser single,
William Nicholas married,
William Jones married,
Michael Croly
John Bevan married,
Samuel Davies single,
William Jones married,
John David married,
John Tanner single,
Peter Sutton married,
Joseph Johner married
Thomas Coxer single.
Humphrey Jenkins married,
David Matthew married,
Herbert Griffiths married,
Rees Williams single.
Benjamin James single.
William Roberts married.
Evan Morgan single.
Henry Wilkins married
John Edwards married
John Stevens single.

Most of the men met their deaths by the effects of chokedamp. The dead were placed on biers and take to their homes. The lessor and lessee of the mine Messrs. Talbot and Vivian made provision for the widows and orphans left by the disaster. Two of the injured died on Saturday and the inquest was opened on Monday at the Police Court in Aberavon to identify the bodies before Mr. Alexander Cuthbertson, the Coroner.

The manager, Mr. Grey, was underground on the day of the explosion and he heard a loud report and was knocked down. He set off down the engine plane towards the Mine Feet Vein where he thought the explosion had occurred. It took him 9 or 10 minutes and he found very large falls of roof 100 yards down the engine plane and it took him perhaps fifteen minutes to get through the fall which had almost stopped the ventilation. The people with him made a hole through the fall and he crawled through.

Mr. Barrass, the underlooker at the colliery, followed him with a lamp and almost 100 yards further on they found Humphrey Jenkins who was the attendant on the engine plane lying besides some trams in a great deal of pain and injured but alive. They left him to be looked after and they pressed on. They came to the upper east station and about 100 yards further on there was a further fall and they found the doors blown towards the face of this level. They could not get over the fall so they went back to the engine plane, down the lower range along the level to the lower east level until they came to the doors. The first door was blown in and the second was damaged but they found the ventilation in this part of the pit, good.

They went on until they could do no more and then went back to the engine plane and then to the lower west where he found the stoppings blown down. They then tried to get to the face of No.7 level but were driven back by the afterdamp. They got to the No.6

range and he was on his way to the No.5 when the whole party became ill and Mr. Grey collapsed. When he came to some men were carrying him out of the pit and he was ill until the Monday but he still managed to give his orders from his bed.

On Saturday and Sunday the falls in the engine plane were cleared. Some of these were up to the roof and the work was slow and dangerous. At this point fourteen bodies had been got out of the mine but there were still many below. The greatest damage was in the No.5 west and 9 to 10 yards of arching had been blown away. The witness thought that the explosion took place in the No.5 because the men that were found there were badly burnt.

William Barrass, the underviewer of the colliery had also worked in the pits for 15 years and started at the age of 9 years. His duties were to see to the ventilation and that there was a good supply of timber for the supports. He had to report to Mr. Grey if there was anything wrong. On the morning of the explosion he had had reports from John Evans and William Drummer the night overman. Evans said he had been through the Cribbar Vein and it was all right as was the Nine Feet and the men were allowed to go to work. Drummer had been in the Nine Feet and reported that everything was all right.

Barrass was in the pit before Grey and had come through the Cribbar seam and he saw Grey about 9.45 am. He had then come up for his breakfast and was going down again as Grey had sent a message for him to come down and make haste. He was going down he felt the cage shaking but he did not hear the explosion but he felt the reversal of the air and he knew what had happened. At the inquiry he said he had been in five explosions in the North of England. Barrass went down the main drift and along the main drift to the seat of the explosion where he met several men and boys and he asked where Grey was. He met him at the foot of the main engine plane and they went on together.

William Grey fell down and he went back on his hands and knees and met several men who helped him and told them to go back and get Grey. He said, *'I was so far gone that I could scarcely crawl and answer the questions that they asked me'*.

He thought that a fall had caused the explosion in William Morris' heading. Morris was found by Barrass with a large quantity of coal on his body and his lamp was broken. He found Robert's body at his work place and his lamp was locked and there was a fall but not as much as in Morris's heading. They also found the body of a boy named Coxen was drawing for Morris and he thought that the explosion occurred in the lower No.5 level. Five colliers and a boy were found in the No.6 level and their bodies recovered.

Barrass saw the night overman, John Evans who reported the faces clear but a little gas around the edge of the goaf and there was no squeeze in the roof. Evans had found gas in Thomas Lodwick's No.7 east level. He reported to Barrass that everything was all right at 6 a.m. Peter Sutton was opening out between Nos.5 and 6 and the hole was not yet through.

William Drummar, a master shotfirer, was at the bottom of the pit and everything was all right when he left. Thomas Hughes, a coal cutter said that there was gas in the workings.

In his report on the disaster, Mr. Evans, the Inspector commented-

"I carefully examined the mine on many occasions after the explosion, and from the observation I made, and the evidence adduced at the coroner's inquiry, it is my impression that the explosion took place near the goaf in the western workings. It is difficult to come to a conclusion as to how the gas was ignited for all the lamps, except one, were found locked, and that one, although not locked, was in good order with its top on. Three of them were damaged and found near the spot where I believe the explosion originated they might have become damaged by the explosion, or possibly they may have been defective and unfit for use. The general ventilation of the colliery was good, and for many years past I have held it to be one of the best arranged and one of the most efficiently conducted mines in my district. The discipline was unusually good, and no expense spared by the proprietors in carrying out the recommendations of their able viewer. On this particular occasion I

am inclined to believe that some matters of detail had not received the amount of attention which is necessary in a colliery of this description, where gas is known to exude from the coal, and to be given off with great pressure from the floor and roof. I think that gas on the morning in question had accumulated in the goaf near the workings, and that the ventilation in that part had been disturbed by the falling of the roof and side, and thereby partially closing the airway. I cannot attribute any blame to the manager in such a case, for it is quite impracticable for him to attend to every minute detail in such an extensive mine."

THRYBERGH HALL, Rotherham, Yorkshire. 30th. November, 1863.

The colliery was the property of the Thybergh Hall Coal Company and six men and boys lost their lives by falling down the shaft

Those who died were Joseph Cooper and others.

WYNSTAY Ruabon, Flintshire. 9th. December, 1863.

The colliery was owned by the New British Iron Company. There had been an explosion a short time before, at the 'A' Pit at the colliery and in the same district, on the 9th. December, a fireman fired a shot in an upbrow 25 yards from the return air course and 45 yards from the main horse road in the workings which, at that time, were not very extensive. The resulting explosion caused the deaths of thirteen men and boys and injury to six others.

The workings were ventilated by a split of the air at the extremity of the horse road and then behind brattice cloth, through an opening into the level above from which the two upbrows were ventilated by brattice. One of the upbrows was intended to be a self acting incline which had been driven from the main road. At the bottom of this there was a single door which separated the intake and return air currents. The door had to be opened and closed as every wagon passed.

On the morning of the disaster, the door had been broken by a loaded wagon. The foreman helped to repair it and then went into the upbrow workings to fire shots for the colliers. He ignited the fuse and retired to the level below.

The men who died were-

Thomas Williams aged 26 years, driver.

Edward Evans aged 40 years, collier.

Elias Jones aged 29 years, collier.

Benjamin Thomas aged 27 years, collier.

Thomas Davies aged 25 years, collier.

David Jones aged 41 years, collier.

Samuel Thellwall aged 13 years, driver.

Thomas Stephens aged 22 years, drawer.

John Blower aged 40 years, collier.

William Jones aged 48 years, collier.

William Williams aged 17 years, drawer.

John Davies aged 36 years, collier.

The Inspector, Mr. Peter Higson was about to descend another of the Company's Collieries when news of the disaster reached him and he got to the scene of the explosion a very short time after it had occurred. He stated in his report-

"The greatest exertions to recover the unfortunate men had been made, until the strength of the brave men who eagerly undertook the task was all but exhausted, while explosive gas and afterdamp had become impenetrable barriers to further explorations, still seven persons were missing and the anxious but mournfully quiet

appearance of the spectators who stood around the mouth of the pit seemed to say, 'there are seven more missing'. Another effort was made, and the lifeless bodies of the seven unfortunate men were brought to the surface."

BRIDGE-END Pensnett, Worcestershire 11th. January, 1864.

The colliery was the property of Mr. Raybould and was worked by Jackson and Jones and five colliers were killed when they fell part way down the shaft. On the morning of the accident six workmen were descending the shaft and the horse driver went to the stable at the pit bank to bridle a horse. The animal turned round suddenly, knocked the driver down and rushed out into the yard. The animal fell down the shaft. The impact of the animal with the skip broke a chain and the men went to the bottom of the shaft to their deaths. Their remains were brought to the surface wrapped in sheets.

Those who died were-
Joseph Baker,
Job Round,
Zachary Barker,
John Page,
Thomas Bate and
George Terry.

Mr. Baker, the Inspector commented-

"At the pit in question the usual mode of winding is practised, i.e. loose skips are employed instead of guides, cages, lifting wickets &c. If these latter had been in use this lamentable accident would have been prevented."

Those who lost their lives were-

BROOKHOUSE. Hanley, Staffordshire. 2nd. March, 1864.

The colliery was the property of Pratt and Company and when the pit was sunk there was an explosion when the coal was reached which killed one of the proprietors and another man so the management was aware that the coal gave off gas. Despite this knowledge, as soon as they had driven to the boundary, seven stalls were started to be worked without a thirling or even brattice to ventilate five out of the seven stalls.

The manger and underlooker were surveying this part of the workings the day before the disaster and knew that there was gas present that had to be brushed out every morning.

Those who died were-

D. Grattan and four others. REQUIRED.

Mr. Wynne, the Inspector brought charges against owners and the full penalty of disregarding the first general rule was imposed and they were fined £20. The money was paid to the widows of the victims.

BLACKKEYHURST Ashton-in-Makerfield, Lancashire. 1st. July, 1864.

The No.13 pit at the colliery was 220 yards deep and known as Marsh's Delf Pit. It led to the Little Delf Mine and was connected to the Rushy Park Mine. The colliery was owned by Mr. Samuel Stock.

The pit was worked only during the day and at 5 a.m. the engineer began lowering fourteen or fifteen men, eight at a time. A jerk in the engine told him that something was

wrong in the shaft and a basket was lowered. It was found that the cage had come into contact with something in the shaft and that the colliers had fallen out.

It was found that a collision of the cages had occurred because the cage had got out of the guide rods. Only two to escape were William Burrows and Henry Leighford who managed to hold on when the cage tipped one by an arm and the other by his leg.

There were no bodies at the bottom of the shaft but the planking over the dib hole was broken and all were in the water. Pumps were set to work and it was not until one and a half hours later that the first body was found. The two Simpkins were the first to be recovered. All the bodies were badly mutilated and they were identified by Thomas Bold, the fireman at the colliery. All the bodies were recovered by 4 p.m.

The dead were listed as-

Edward Clark aged 30 years, a collier of Ashton who was married with three children,

Robert Houlton aged 25 years, a collier of Billinge who was married,

John Simpkin aged 15 years, a drawer,

Thomas Heyes aged 14 years, a drawer,

Isaac Simpkin aged 12 years, a drawer and

Henry Burrows aged 15 years, a drawer.

All the victims lived at Billinge, Chapel End and most of the village turned out to watch the funerals.

At the inquest into the accident the jury decided-

“The cage had collided through some cause unknown but that the guide rods were unsafe.”

In the report on the accident, the Inspector, Mr. Peter Higson commented-

“They were ascending the pit in one cage which in consequence of the wooden guide rods having shrunk and got loose the cage got out of the perpendicular and came into collision with the one ascending the pit. The two cages were working in the same shaft with a limited space between them. The unfortunate people were precipitated to the bottom of the shaft and subsequently brought up dead.”

SEGHILL. Seghill, Northumberland. 9th. September, 1864.

The colliery was owned by Joseph Laycock who had bought the colliery about six years before from Carr Brothers who owned the Burrowdon and Hartley Collieries. The colliery was on the Blyth-Tyne Railway and had been sunk about 35 years before the disaster.

The Pit had employed 500 men and boys but there had been a strike and employed 400 at the time of the disaster. There were two shafts, the John Pit, which was the winding shaft from the Yard Seam and the upcast and the Engine Pit which was a few yards away and was the pumping shaft and drew coal from the Low Main Seam.

Jonathan Cambell, a master shifter of Seghill, who had worked almost thirty eight years at the colliery, examined the pit at seven of the evening of the explosion and found nothing wrong. Cambell was in the pit when the explosion took place at a place called the ‘Old Flat’ Two hewers and a boy were working there and the hewers, Heaps and Whitehouse were killed. They were working with lamps but naked lights were allowed in parts of the pit The boy, William Taylor also had a lamp. The lamps were locked by the deputies and William Thompson locked these lamps and he had worked for 38 years in the colliery. The ventilation before the explains was thought to be all right but there was a caution board placed about the lights. The pit was subject to blowers and smoking was not allowed in the pit.

John Greenwell was the deputy in the Yard seam at the pit and went into the workings after the disaster. He found the body of William Taylor, a putter, in the Moor House Way with a separated lamp a few yards from the body.

Those who died were-
William Taylor, putter,
Heaps, hewer,
Whitehouse, hewer,
George Jackson, Mills and
Robinson.

The injured were-
Barnabus Mulen, a boy.
Thomas Dodds, a hewer.
William Rutherford, hewer.
Thomas Hogg.
Thomas Wedderburn.
Francis Purvis, putter.
John Stevenson, a boy driver.
John Armstrong, shifter.
John Richardson, shifter.
Robert Wood, shifter.
Henry Mills, shifter.

The inquest was held at the Hope and Anchor public house at Seghill before Mr. Cockcroft, the Deputy Coroner. The room was crowded and among those present were Mathias Dunn, Inspector of Mines, Joseph Laycock, the owner of the colliery, Mr. Forster, consulting engineer to the coal trade, The Reverends Skeen and J. Brown, Dr Davison, Dr. Pyle of Earsdon, Mr. T. Hurst, mining engineer and Messrs. Catron, Nicholson and Maddison, colliery viewers.

Robert Barras the master wasteman at the colliery for 20 years and had worked at the colliery for 35 years and gave evidence at the inquest that he had never seen gas in the goaf but safety lamps were used there and there was now no powder used in the mine and the ventilation was normal.

Several witnesses who had been involved in the rescue operations to recover the bodies told the court that they had found lamps that were opened. William Lumsden, the fore-overman in the Main seam said-

“I went down the pit after the explosion and found two bodies in the Moor House way but I did not know them. We had to come back because we met a lot of chokedamp. We went further in later and found two lamps, one of which was unlocked. It was Robinson’s lamp. He had a key because he was superintending some men. Another lamp was found unlocked. I think some gas must have come from a fall in the goaf. There must have been a naked light which caused the explosion. There was a jacket found with one of the bodies and there was tobacco in the pockets. We have not found any pipes.”

Mr. Dunn said-

“I cannot say where the explosion originated neither can I account for it all. Robinson’s lamp was found open. The brick stoppings were blown about 600 yards. There might have been some stowing about the stoppings. It would be about one o’clock when I got to the cross-cut way. It would be about eight o’clock on Thursday morning when I got to the Californian way.”

The jury retired and after a short time the foreman delivered the following verdict-

“We find that George Jackson and the others have been killed by an explosion of gas in the low seam of Seghill Colliery and that such explosion was caused by gas coming into contact with the injured lamp, and that they had been accidentally killed.”

Mathias Dunn commented-

“In concluding this report, I beg respectfully to remark, as to my general practice in visiting various mine in the district, since the commencement of the Inspection Act in 1850, I have invariably and carefully scrutinised the plans and noted detailed answers to enquires upon them, recording them in permanent books, so that from these records I obtain a general knowledge of the effects of each arrangement, and also of the quantities of air, its nature and velocity, as well as the principles and practice at the different collieries (as explained in my weekly summaries), so that when visiting a mine or inquiring if there is anything requiring an underground inspection, and neither masters or men request advice or opinion, underground inspection is to a certain degree unnecessary.”

MADDERLEY WOOD. Ironbridge, Shropshire. 27th. September, 1864.

The Colliery was the property of John Anstice and Company and was between Ironbridge and Madderley and mined ironstone. It was also known as Lane Pit. Three men and six boys were killed when a skip detached while ascending the shaft. The skip in which they were travelling fell through a scaffold which was made of six inch oak. As soon as the disaster was heard of, a crowd of hundreds gathered at the pit head. The pit was 250 yards deep.

Those who lost their lives were-
Edward Mallett, married with four children,
Benjamin Davies and
John Tranter, married with six children.

The boys,
William Onions,
Joseph Maden,
John Fair,
John Jones,
William Jarrett and
Francis Cookson.

The inquest was held before Mr. E.J. Bartlam, Coroner. Joseph Vaughan, the engineman, said that all was going well when he suddenly felt the weight go off the engine. The Coroner instructed the jury to bring in a verdict that the men were ‘Accidentally Killed’.

In his Report, Mr. Wynne commented-

“The number of accidents and lives lost is the same as last year but this is not satisfactory to me, for so long as the present system of open shafts without guides, continues to prevail, so long will men fall from the surface, from part way down, be struck by falling things from the surface and by things falling from part way down. In this, as in all other things, improvements are prevented by the ignorance of the parties in charge of mines, who set their faces against all improvements, and in some cases, push their ignorance so prominently forward as to say, “They would not go down the pits if their masters introduced guides.”

WITHYMORE. Rowley Regis, Staffordshire. 16th November, 1864.

The colliery was the property of Messrs. Edwin and Joseph Nock and eight colliers lost their lives in the accident. A skip containing eight men and boys was being raised at 6.15 p.m. when the chain caught on one of the horns of the drum, and in falling off one of the angles on the square drum shaft, snapped and the skip fell 70 yards and a length of 90 yards of chain fell on top of them. All of men and boys were killed on the spot.

An inspection of the winding apparatus after the event by Mr. Baker, the Inspector, revealed that the chain was a very good one and when tested had a breaking strain of 19 tons 3 cwt. but there was serious defect in the pit frame that supported the pulley. It was about fifteen inches from the vertical and it was this that caused the chain to catch on the horns of the drum on the side towards which the frame leaned. From the wear on the horns, it was clear that this had been the case for some time. The engineman said the chain first caught on the point of one of the horns and as the drum revolved, fell off onto the square drum shaft, the sharp angle of which, caused the chain to snap.

Those who lost their lives were-
Joseph Russell,
E. Stubbs,
E. Caperrell,
E. Greenfield,
B. Cooper,
Charles Crompton and two others.

There were three inquests held on the deaths of the men, one of these was presided over by Brook Robinson, coroner for Worcestershire and the other two by Edwin Hooper one of the Staffordshire coroners. Mr. Baker commented-

“The cause of the accident was clear, but the juries, as is often the case, experienced considerable difficulty in ascertaining who was responsible for the defective state of the winding apparatus and the result was that each jury returned a verdict involving the charge of manslaughter, but in each case against different persons, the last which sat expressly exonerating the persons committed for trial on the finding of the juries which had previously sat.”

It was fully proved at the inquests that the cause of the accident was that the frame which supported the pulley had been sinking for some considerable time. There had been a fire underground at the colliery which had caused subsidence on one side of the frame but not the other. The frame had been adjusted by raising one leg. There had been a strike at the colliery and all the Staffordshire collieries and work had been suspended for some weeks and during that time the subsidence had gone on to a considerable extent. The colliers said that it had been raised on several occasions after they had gone back to work. The Inspector commented-

“It was evident that grievous neglect had been shown in not more carefully watching the subsidence which was well known to be going on, and in not taking effectual means to make the ‘pulley’ frame firm and true.”

The partner who was the general manager of the colliery was Edwin Nock and up to three weeks before the accident there was a head engineer, Crispin Southall. He took responsibility for the engines and winding and pumping apparatus in the pit. He said he had been instructed to inspect the head frame and after the resumption of work, it was in good order.

At the first inquest Nock stated that Southall left his employ he employed an engineer named James Leedham and the jury evidently inferred that this man took Southall's place as head engineer. The banks man stated that the frame was raised on the orders of Zechariah Mason, the manager of the colliery. The result of the first inquest brought in a verdict of manslaughter against Mason as manager of the colliery and Joseph Leedham as chief engineer.

At the second inquest, before Mr. Hooper the Staffordshire Coroner, Edwin Nock stated that Downing, the man in charge of the engine at the time of the accident was responsible for the machinery at the pit and that Mason was only the deputy or doggy. The result of this inquiry was a verdict of manslaughter against Edwin Nock.

The third inquest was also before Mr. Hooper, it was shown that Mason went down the pit on the morning of the accident and he said that the skip did not touch the side of the shaft. The banksman had told him that there was something working with the winding

machinery but he did not think there was any danger. Mason had no recollection of the conversation. The jury returned a verdict of manslaughter against Francis Downing, the engineman and exonerated Leedham, Nock and Mason. All four men were awaiting their trials in March at the assizes and Mr. Barker could not comment further on the matter.

LEESWOOD Mold, Flintshire. 15th. December, 1864.

The Leeswood Main Colliery belonged to Messrs. Craig, Taylor and Craig. The workings where in the inundation occurred were about thirty yards below the level of the bottom of the shaft. The goaf from which the water came was made by the current proprietors of the colliery and was known to be full of water. It extended along side the present workings and it was separated by an unworked portion of the mine. The mine was nine feet thick and there was a small fault which intersected the mine and caused an upthrow of about seven feet.

The plan of the colliery on which all the underground operations were supposed to be shown had been prepared by competent people but only one portion of the plan was prepared from the actual survey and the remainder of the information was supplied from information supplied from a previous underlooker. This plan showed the fault to be nearer the old workings by many yards from where it was proved to exist.

The men who died were-

John Jones, aged 19 years, collier,
John Smith, aged 22 years, collier,
William Jones, aged 23 years, collier,
John Roberts, aged 23 years, collier,
John Jones, aged 23 years, collier,
Thomas Ellis, aged 15 years, driver,
Owen Jones, aged 10 years, water fitter, and
Lewis Lloyd, aged 47 years a daywageman.

In evidence at the inquest it was stated that when the workings were touched the fault, the managers of the mine thought that there were two faults in front of them which would have been enough to hold back the water. Borings were not made as they should have been under the 15th general rule. In his report Mr. Higson commented-

“There were unmistakable indications also of irregular, I may say, bad management below ground, sufficient to convince one that the manager had not paid proper attention to his business, not to the safety of the workpeople there are, however, two circumstances connected with this deplorable event, which in some degree relieve him of the full weight of this heavy charge. His own son, who was working in one of the most remote places, was saved by making his way through the water, and he himself had frequently been through the working a very short time before.”

The jury at the inquiry returned a verdict of manslaughter against the three partners of the firm which was heard at the Mold assizes. The Inspector's report does not give the outcome of this case.

DOUGLAS BANK. Wigan, Lancashire, 4th. January, 1865.

The colliery was the property of John G. Morris and five sinkers and several others were at work at the bottom of a new shaft, 16 feet in diameter and 500 yards deep. The sides had been cased or lined throughout but when they began to sink another length, about 200 yards of lining collapsed killing the five sinkers.

Those who died were-

5 sinkers

SALT WELL Dudley, Worcestershire 9th. February, 1865.

The colliery was the property of the Earl of Dudley. The accident happened in the thick coal workings and was the most appalling and destructive on record. In the No.10 Pit and on the morning in question six men were engaged as loaders in one of the openings of the mine when some fifty tons of coal suddenly fell from a height of seventeen feet without any warning. The fall was brought about by a subsidence of the strata which was technically called a 'bump'.

All the victims were listed as bondsmen and one of the men was conscious as the rescuers were trying to get him out but was dead when they did so. The deputy had not sent for a surgeon '*for fear of creating an uproar at the top*'.

Those who died were-

E. Johnson, aged 18 years,
W. Mason, aged 30 years,
E. Roberts, aged 36 years,
J. Smith, aged 18 years,
J. Rough, aged 31 years and
Pikey, aged 27 years.

There were two inquests held into the deaths of the men. Mr. Matthew Fletcher, the ground bailiff stated that he had instructed the charter master to confine himself to the Eight Yard openings, leaving pillars ten yards square. The opening in which the accident occurred was twelve yards wide at the bottom. Fletcher observed that, 'this was serious departure from his instructions and seriously increased the danger to the men.'

Before the accident the coal was overhanging for twenty four feet from the side of the rib and it was not supported by props. A witness said that this would have been impracticable. The charter master's deputy had inspected it with a pike before the men came down to work the morning before but not on the day of the accident. He had reached it with the aid of a ladder and found it safe.

Mr. Baker, the Government Inspector commented at the inquiry-

"I inspected the Salt Well colliery the day after the accident. I found that the coal had fallen, partly from the roof partly from a face slip and which extended from one side of the opening to the other, running parallel with the structural divisions of the bed or face of the coal, thus favouring the process of raving off consequent upon the super incumbent weight on the one hand, and the up heaving of the bottom of the other, causing the coal to split into columnar masses and roll off. The overhanging coal before the fall extended about 24 feet from the side of the rib and was about 5 feet in thickness and 17 feet 6 inches from the floor of the mine, 9 or 10 feet of which broke off."

Mr. Baker continued his report-

"Overhanging coal under any circumstances greatly increase the risk to life and limb in working thick coal seams. The structural divisions of the coal appear to be extremely treacherous, consequently opening too wide should be carefully avoided, therefore the work should be set out at safe and reliable dimensions and well supported with timber props here they can be set to moderate heights. I believe it possible to prop overhanging coal even when it is 17 feet high."

At the first inquest the jury deliberated for twenty minutes and returned a verdict of 'Accidental Death' and made the following recommendations-

"That in future the openings in No.10 pit do not exceed eight yards in width, that all overhanging coal above the band be either got down or timbered, and it is the opinion of the jury that this should have been done before the accident happened. That the butty and doggy be cautioned as to the mode of examining the pit before the men commence working and the jury are of the opinion that hitherto proper examinations have not been made in the pit. That on any future occasion, when an

accident happens in the pit, it at once be communicated to the banksman, and the surgeon sent for."

A similar verdict was returned by the second inquest into the deaths of some of the men. The Inspector concluded his report by saying-

"It is but due to the memory of the charter-master, who is since dead, to say that he had worked at the pit for 10 years without the loss of a single life."

CLOUGH HALL. Newcastle, Staffordshire. 1st. March, 1865.

The explosion took place in the Bullhurst Seam at the Clough Hall and Brookhouse Collieries owned by Kinnersley and Company. A man named Birks, who had charge of the pit found gas in a working place both in the morning and a few hours before the men went down the pit to work. Even though the gas was a few feet from the roof he allowed the men to continue work and even to fire a shot which cause the explosion. Mr. Wynne, the Inspector commented, *"this was a place where men ought not to have been allowed to work, and to fire a shot there was perfect madness."*

Those who died were-

Elijah Birks , collier aged 24 years.

John Sims, collier aged 34 years.

William Swinswood, collier aged 28 years.

Isaac Brocklehurst, collier aged 40 years.

Jospeh Brocklehurst aged 15 years and

William Stubb aged 18 years was seriously injured and Joseph Brocklehurst aged 15 years was less seriously injured.

In evidence at the inquiry, Mr. Rolandson, the manger of the colliery, said-

"I was down the pit a week before. I did not examine the air. I did not examine for gas. There was no air in the place but brattice air. The gas had not been reported to me. It is not safe to leave it so near to men's heads. I laid out these workings. it is a fiery seam. There is no furnace or other means to produce ventilation. We had a man burnt to death in the main airway sometime before."

The Inspector charge the manager with a breach of the First General Rule but the magistrates dismissed the case. Mr. Wynne further commented-

"This decision bore its natural fruit, for on the 7th. September the same man found gas in a heading near the same place and ordered a man to go in and brush it out with his waistcoat in doing so the flame was driven through the gauze, it fired the gas and killed the brusher. In this case a conviction was obtained s there was no powder to lay the blame upon and no neighbouring managers came forward to hoodwink the magistrates and whitewash the management."

CLAY CROSS. Chesterfield, Derbyshire. 3rd. May, 1865.

The colliery was owned by the Clay Cross Iron and Coal Company and at the time of the disaster was one of the most extensive mines of the Midlands. The explosion took place in the Black Shale Coal of the No.4 Pit.

The enginehouse which was some distance from the mouth of the pit, had its lights put out and a terrible noise was heard. One of the winding ropes snapped off the drum and the carriage rope damaged the conductors and fittings in the shaft as it fell. There were about 20 men in the pit at the time and the engineman saw flames rising above the shaft and heard a loud explosion. Mr. Charles Binns, the General Manager of the pit and Mr. Howe, the mineral engineer were immediately informed and proceeded to make an examination of the mine. It was soon discovered that an explosion had taken place and the eight bodies were found and brought to the pit bank.

Those who died were:-

Samuel Kay who left a wife and six or eight children,
John Kerry, Thomas Bamford who left a wife and family,
Thomas Fox. married,
Frank Lowe,
Ralph Stockgill, married,
Spetch and Smith, boys.

The bodies were taken from the pit to the Company's Hospital to await the Coroner's inquest.

A detailed examination was made and it was found that the disaster had taken place to the south side of the workings, down the engine plane, a short distance along the main level and up the down cast shafts. From the position of the bodies and the direction in which doors were blown down it was clear that the explosion had taken place in a stall on the southern side of the engine plane.

The previous day the pit had been in full work and the man who worked the stall had left at six o'clock and was free from gas and in a safe condition. It was suggested that the gas had come from a fissure in the floor. The Inspector, Mr. Thomas Evans stated in his report-

"I examined this stall carefully and certainly did see a large fissure of considerable depth extending itself some distance along the stall parallel to the face of the coal. It was proved in evidence that nothing of this crack was to be seen the previous evening. I believe that the gas did come off at this point and the ordinary ventilation was insufficient to dilute it to the safety point. Naked lights were used throughout the mine and probably at the candle of one of the unfortunate sufferers the gas was ignited."

Mr. Evans concluded his report by saying-

"The black shale coal had for many years been extensively worked along the outcrop of the Derbyshire coalfield, this is the first instance on record of any sudden and large quantity of gas being given off. An ordinary amount of ventilation properly directed along the long work faces and through the gate roads had generally been sufficient for the safe workings of the mines. This mine is however, considerably to the deep of any hitherto worked, and this, in all probability, may account for the sudden discharge and pressure of gas. In future it will be necessary to largely increase the quantity of air and gradually introduce the use of socked safety lamps in the fiery mines of the midland counties."

TREDEGAR. (New Bedwelty Pit.). Bedwelty, Monmouthshire. 16th. June, 1865.

The colliery was owned by the Tredegar Iron Company and was known as the Bedwelty Colliery and included workings to the deep of the Ty Tryst pits and the explosion took place in an area that was being prepared to be worked. It claimed the lives of twenty six men and boys. There were two deep shafts to the explosion area and two straight, level roads leading west where there were three cross headings on the rise side, each with their corresponding groups of stalls. The area was easily ventilated and the Inspector thought it sufficient but added a rider, *'if it had gone through all of them.'* The shafts went to the Big Vein seam and were about 230 yards deep and 16 feet by 11 feet, which were large shafts, They were 12 yards apart. The Ty Tryst Colliery had two shafts of similar dimensions which were connected to the Bedwelty shafts so the ventilation was good and there was an adequate means of escape in any emergency. Mr. Brough had visited the colliery on several occasions and had found the ventilation satisfactory and came to the opinion that-

"The catastrophe is by no means attributable to want of power or of proper areas underground to produce a safe and adequate amount of ventilation."

At the time of the disaster there were 50 men working in the district and the Inspector thought that the explosion should not have taken place. As soon as he heard of the event, Mr. Brough went to the colliery and descended and made his first examination on the 17th. June. The following week he made other inspections.

On the Friday morning before the explosion, David Jones, a collier and his son started work in the upper main cross hole to take down some coal to make a good travelling road but to do this they had to take down a door which turned the ventilation into Robert's heading. This cut off the air to that heading which filled with firedamp and it remained in this dangerous condition until Wednesday. Mr. Brough commented-

"That door should never have been taken from its place until all the colliers were out of the pit and everything got in readiness to remove the gas. Moreover, as soon as it was discovered that the door was gone, a new one should have been put in its place."

There were many reasons why the Inspector thought it was the son and not the father who fired the gas. The boy was found nearly in front of the crosshole and against the opposite rib, his brains were found dashed out. The body of his father was four yards to the west of this point. Mr. Brough commented-

"If this poor child was to be trusted at all in dangerous places, he surely ought to have been provided with a locked safety lamp."

Those who lost their lives were:-

William Allen aged 28 years of Duke Street.
David Benyon aged 25 years of Georgetown.
George Carter aged 52 years of Cinder Tops, father of William.
William Carter aged 17 years, son of George.
Thomas James aged 30 years of Georgetown.
Phillip Jenkins aged 12 years of Cinder Tops.
Richard Jenkins aged 51 years of Cinder Tops.
David Jones aged 45 years of Georgetown, left a wife and 5 children.
John Jones aged 12 years, son of David.
John Jones aged 35 years of Georgetown.
Morgan Jones aged 18 years of Troedrhiwgaer.
Nathaniel Jones aged 58 years of Ebbw Vale.
Lewis Lewis aged 44 years of New Pits, left a wife and 5 children.
Charles Meredith aged 20 years of Cinder Tops.
Thomas Meredith aged 51 years of Troedrhiwgaer, left a wife and child.
Edmund Morgan aged 12 of Market Street, brother of Thomas.
Thomas Morgan aged 15 years, brother of Edmund.
David Price aged 24 years, of Georgetown.
David Rees aged 17 years, of High Street.
Thomas Richards aged 16 years of Transport Row.
Thomas Stead aged 51 years, father of William.
William Stead aged 15 years, son of Thomas.
Thomas Thomas aged 31 years of Georgetown.
Edmund Watkins aged 17 years of New Pits.
Charles Wedlock aged 22 years of New Pits, brother of Thomas.
Thomas Wedlock aged 13 years, brother of Charles.
Thomas Williams aged 21 years of Mount Street.

There were 20 injured and the most severely burnt were:-

John Lewis,
Francis Thomas and
Lewis Williams.

The proceedings were held before William Henry Brewer the County Coroner for Monmouthshire. Mr. Brough thought the gas that had fired was lying in the upper part of Robert's cross heading and the explosions occurred at either the intersection of the upper or main cross hole with that heading or at the mouth of a little cross hole a few yards to the west. He also thought that the first general rule had been broken as this gas was not cleared from the place and that the third general rule was breached on the day of the explosion. The rule demanded that when safety lamps were to be used they should be inspected and locked by persons authorised to do this job. He contended that if this had been done the David Jones and a boy would not have been able to fire the gas. Only one lamp was given out that morning according to the evidence of the lampman and that was not locked. No lamp was given to his son and the Inspector thought that it was most likely that the boy had a candle or other lamps that was used in non-fiery mines. The Inspector went on to comment-

"If the lampman had given out a locked lamp to the father, and another in like manner securely locked to the son, I repeat my opinion that the calamity would not have occurred. That the lives of so many people should have been in the hands of one man and mere boy is greatly to be deplored, especially when those very hands of a man, were without the protection of a locked safety lamp."

Concerning the removal of the door he sent on to say-

"It is in evidence that the presence of a large body of explosive mixture, the removal of the door and the other circumstances of the case were all well known. It is to them ore to be regretted that instead of waiting until Saturday night they did not at once take the men out of the work and afterwards clear the gas from Robert's heading."

After hearing the evidence, the jury brought in verdict of manslaughter against the manager of the colliery who was bound over on bail to attend the County Assizes at Monmouth where he was found not guilty.

Mr. Brough was instructed to prosecute the proprietors of the Bedwelty Colliery and the case was heard before two justices of the peace at Tredegar on Friday 22nd. September when all three charges against the accused were dismissed.

Mr. Brough commented in the Report for 1865:-

"That the colliers should have been at once taken from their work, and then the gas safely dislodged, and operation easy enough of performance. If this had been accomplished, the people, in all probability have been alive, and gaining their daily bread."

CALIFORNIA Aspull, Lancashire. 12th. September, 1865.

The colliery belonged to the Kirkless Hall Company and was at Aspull near Wigan. As eight persons were ascending the pit the round wire rope got off the drum and fell from the top of the drum onto the main shaft of the engine. The rope was either broken by the fall or severed by the eccentrics of the shaft. They were within thirty yards of the top when this happened and they fell 270 yards to the bottom of the shaft to their deaths.

It was a compensating drum with no grooves for the rope to coil on and fixed to the main shaft of the engine. The engine worked with great speed and the diameter of the drum increased from each side towards the middle so the ropes had to coil and uncoil up and down at an angle of more than 40°. The drum had a large diameter and the elasticity of the steel rope would cause the cage to travel a short distance when the stem was shut off. After the speed of the engine had been reduced the rope would become slack on the drum and because the flanges were not high, the rope slipped off.

All the victims were listed as colliers.

Edward Ashcroft, aged 26 years.

John Dunn aged 17 years, drawer.

James Ramsdale. collier aged 24 years.

George Ingram aged 19 years, drawer.
Robert Fletcher, aged 11 years.
William Bradshaw aged 18 years, drawer.
Ronald Eatock aged 40 years, collier.
John Holland aged 20 years, collier.

The inquest was held at the Running Horses at Aspull when it was heard that it had been observed by the men for some time that the engineman, Thomas Lees, had been running the engine at great speed and some of them had spoken to him about it but no complaint had been made to the manager. The inquiry was carefully conducted and a verdict of 'Accidental Death' returned by the jury.

GETHIN. Merthyr Tydfil, Glamorganshire. 20th. December, 1865.

The colliery was the property of William Crawshay of Caversham Park and Mr. Moody was the manager. Almost immediately after the blast the ventilation in the mine was reversed which helped the exploring parties to get to places where they knew men were working and rescue them. Some, were however, injured when they were found.

Mr. Wales arrived at the colliery at 2 p.m. on the day of the disaster and went down the pit with the manager and other officials. They went to the east side of the shaft into the Nine Feet Vein coal and found unmistakable signs that there had been an explosion. Doors and stopping were blown apart and there were traces of afterdamp. They found gas in a stall and the roof of the stall was still falling in but the coal was not burnt or charred. There had been a danger signal at the entrance to the stall and this had been blown across the heading.

Two more inspections were made by the Inspector on the 26th. and 28th, when he was accompanied by officials and several colliers who had survived the blast. Gas was found lodged in a hole in the roof near and in John Hall's old stall and the gas extended about 6 or 8 yards from the face. On the 5th., Mr. Wales and Mr. Brough inspected the mine and they measured the total quantity of air passing through the mine at 30,937 cubic feet per minute. They thought that the gas had accumulated in Vavasour Rees's stall and the explosion was caused by this collier firing shots.

The men who died were-

Alexander Richards, aged 23 years, of Caepantywyll who left a blind father and sister.
John Lewis, aged 16 years, widowed mother with 8 children.
Vavasour Rees, aged 51 years of Park View, Grawen Terrace, left a wife and 2 children.
William Rees, aged 16 years, son of Vavasour.
Griffith Morgan, aged 42 years of 2, Sunny Bank, Brecon Road, left a wife and 3 children.
David Thomas, aged 20 years, left a wife and child.
Roderick Thomas, aged 20 years.
John James aged 22 years of 22, Parrot public house, single.
Thomas Bowen, aged 42 years of 8, Temperance Street, left a wife and 2 children.
Thomas Morgan, aged 35 years of Cwmglo, left wife and 3 children.
John Phelps, aged 13 years of 23, garden Street.
John Luke, aged 34 years of 26, Tramside Road, Pontmorlais, left a wife and 6 children.
Harding Lewis, aged 35 years of 7, George Street, left a wife and mother.
Samuel Harris, aged 28 years of 11, George Street, left a wife and 2 children.
Hardiff Stevens.
Rees Davies, aged 11 of 5, Aberdare Road.
Rees Davies, aged 75 years of 31, Ynysfach.
John Morgan, aged 21 years of Ynysfach, left a wife.
Morgan Thomas, aged 16 years.
David Beddoe, aged 19 years, overman of Nantygwenith, left a wife and 2 children.
John Morgan, aged 33 years of 13, Cyfarthfa Row, left a wife and 5 children.

Lewis Price Thomas, aged 20 years, left a wife and child.
Daniel Thomas, aged 24 years, of 3, Tabernacle Row.
James Thomas, aged 22 years.
Griffith Ellis, aged 48 years of Newton Street, Abercanaid.
William Morris, aged 42, of 26, Brewery Street, left a wife.
John Daniel, aged 47 years of 10, David Street, Morgantown, left a wife and 3 children.
Joseph Rees, aged 29 years of Yew Street, left a wife and child.
David Davies, aged 18 years of 79, Ynysgau.
Henry Lewis, aged 13 years of 9, Pond Row, Abercanaid.
David Luke, aged 12 years of 26, Tramroadside, Pontmorlais, son of John.
Thomas Morris, aged 35 years, of Cwmglo, left a wife and 3 children.
Joseph Morgan, aged 23 years, of 23, Garden Street, son of Thomas.
Thomas Morgan aged 46 years, father of Joseph.
David Ellis aged 41 years of 3, Newton Street, Abercanaid.

The Inspector's Report lists two men named 'Rees Davies' and two 'John Morgans' The Report also states that there are 34 victims but lists only 33 due to an error in the numbering that leaves out No.28. The report also states that 10 or 12 others were seriously injured.

The inquest was held before Mr. George Overton, and lasted several days. Mr. Lionel Brough Inspector for the South-Western District of Great Britain attended the inquiry under directions from the Secretary of State. He thought that the explosion occurred in Vavasour Rees's stall and thought that the gas had gathered there due to an obstruction in the crosshole and the one just below it and was an infringement of the First General Rule. He thought the men should have been withdrawn and the firedamp swept away by an adequate current of air.

In his report the Inspector commented-

"From the evidence I believe proper danger signals had been placed at bar the entrance into the three stalls which contained gas, but in my opinion the quantity of air passing south from the top or upper level should have been increased and after level in the face of the middle level, diverted into Vavasour Rees's stall to clear away the gas here. No men should have been allowed to work the lower side of the middle level until the gas had been cleared away.

I have no hesitation in stating that the gas in this stall was ignited and was the cause of the sad explosion, but inasmuch as this pit is worked with locked safety lamps, I am unable to state with any amount of certainty by whom or by what means, whether a naked light or a defective lamp or improper use of an efficient one, the gas was fired."

A damaged lamp had been found belonging to David Beddoe who was acting overman and the Inspector went on to say-

"I need hardly add that the painful facts have been elicited in this inquiry present a sad picture of the utter want of even the ordinary care in regard to the use of safety lamps, lamp keys or contrivances for opening lamps, lamps unlocked, matches, pipes and tobacco have been found in the pockets of several of the unfortunate sufferers in this sad calamity."

The jury returned a verdict of manslaughter against the colliery manager, Mr. John Moody and his underviewer Mr. William Davies, both of whom were tried before Mr. Justice Blackburn at the Swansea Assizes the following March. After hearing the evidence against the two, His Lordship said that there was no case against William Davies and a verdict of not guilty was returned against Mr. Moody.

PELTON. Chester-le-Street, Durham. 12th. January, 1866.

The colliery was owned by Lord Dunsany and Brothers. Their days work was over and they were leaving the pit and the lads appear to have got into a set of laden tubs which

were being hauled out by an engine and rope. This was against the Special Rules of the colliery and there was notice posted on the pit bank. On their way the set of tubs collided with another set from a branch which had escaped out of control down the engine plane. The collision caused the deaths of the youths and injuries to others.

Those who lost their lives were-
William Cowell aged 17 years, putter,
Robert Wright aged 13 years, incline boy,
Frank Shotton, aged 12 years, driver,
Thomas Harrison aged 14 years, flat keeper and
Rodger Grey aged 14 years, driver.

The Inspector commented that it was great temptation to ride on the boxes and it was difficult to stop the practice. In evidence it was stated that an empty set of boxes in which people could ride, had been tried but had proved a failure since the men had to wait until the set was ready and the experiment had been abandoned.

There was man stationed at the start of the engine plane where the boys got on and he said that he had advised them not to get on and that he had orders not to allow people to ride on full trains. He made several get off but he knew they would get on somewhere else.

Mr. Atkinson, the Inspector commented in his Report-

“I may remark that it is very difficult to prevail upon workmen and boys to walk long distance underground where it is possible for them to ride and in some situations it is considered to be quite as safe riding as walking and in many such cases they are allowed to ride.

Sets of coal tubs drawn at high speeds along the confined passages of mines where there is no day light and where the people often loose their artificial lights, are naturally very dangerous to life and limb and the danger is enhanced in many instances by persons trying to get on and off such trains while they are in motion.

To provide separate and distinct roads from engine and inclined planes, for persons to travel in, would in some cases probably tend towards the prevention of loss of life and of personal injuries, but I think in many old established mines be all but impracticable, and in my opinion would not altogether prevent persons from riding upon the trams.”

HIGH BROOKS. Ashton-in-Makerfield, Lancashire. 23rd. January, 1866.

The two pits, that belonged to the colliery, were within forty yards of each other and were the property of Messrs. Turner and Evans. They worked the Orrell Five Foot Coal at 290 yards and the Wigan Four Foot Coal a few yards below this. When the coal was struck, it was on a fault which threw the Four Foot sixty yards upwards. Two downbrows ran from the pit-eye until they met with another series of faults, at which point there was a rise tunnel which had been stated and was driven across the faults until it cut into the regular seam again. The cross-tunnel was the return airway with the intake airway being beneath it and was arched over, about fourteen yards from the pit-eye and two hundred and forty yards from the end of the workings.

Nearly forty men and boys were employed at the Four Foot Seam which had been worked for about two years. It was reported that great care had been take to avoid accidents but there had been several dangerous occurrences at the colliery over the preceding years. It was known that there was little gas in the mine. The Four Foot coal was known as the Arley mine in other parts of the Lancashire coalfield and was recognised as a fiery mine. This was the term that was used at the time to indicate that it gave off a lot of gas. However, the workmen considered it a good place to work and there was strong competition to work there with the result that Mr. Mercer employed who he pleased and he was on record as stating that *‘All the men in the colliery were fit to be*

taken as firemen or underlookers and it can hardly be expected that the accident is some result of some rash accident by the workmen.'

The men went down the mine at five and six in the morning and, as was the established practice, the fireman, William Marsh made his inspection of the workings before the men went to work and in his own words '*sound everything as clear as a bell.*' When he had finished his rounds he went to the pit-eye to get something to eat and was just at the point of returning when the explosion occurred. He felt a large rush of wind and knew that an explosion had taken place.

The blast lifted the hooker-on off his feet and blew his cap into the Five Foot Mine. A cloud of dust and small coal was blown up the shaft. Marsh immediately set off to find the extent of the damage. He was the first on the scene and went to the right of the workings where he soon found that this was not the seat of the explosion. He found about a dozen men who had been working in the area, coming out and they told him that the explosion had not occurred there.

He turned back and made his way down the jig-brow, at the bottom of which he found three boys, Thomas Morris, the taker-off at the bottom of the jig, John Ashcroft, a pony driver and John Watkinson. Two of these lads were suffocating in the afterdamp that filled the mine due to the destruction of the ventilation. The arching had been destroyed. Marsh rendered first aid to the lads and got them to the pit-eye from where they were taken to the surface and safety.

Mr. Mercer, the owner of the colliery, had a near escape. He was at the pit bank waiting to go down the mine to inspect one of the working places in the explosion area. A pony was being lowered in the cage which was the cause of his wait when the explosion occurred. The delay probably saved his life.

Before a full search of the workings could take place, the arching had to be repaired and the underlooker, Henry Ashcroft, who was in the No.1 pit at the moment of the explosion, came to the No. 2 shaft as soon as he knew what had happened. He went down to help Mr. Marsh and to supervise the operations.

As in all mining disasters there was immediate help forthcoming from other collieries in the district with the mining engineers and workmen congregating at the stricken colliery, offering their help and expertise to give aid to their fellow workmen who were down below.

Mr. Clarke, mining engineer for Sir Robert Gerard of Ashton and Mr. Watkin from Messrs. Blundell's Collieries at Pemberton, near Wigan, immediately went to the pit to offer assistance. As soon as the arch was temporarily repaired, a search party went along the jigsaw and it was there that they found the first body about 3 p.m. Along the top of the brow they recovered the bodies of three or four drawers and the remainder of the dead were all found in their working places.

The grim task of recovering the bodies was begun. Many of them were very badly burnt and others had met their deaths by the afterdamp that was present in the mine. By 10.30 p.m. all the thirty bodies had been recovered.

The local population had turned out to give whatever assistance they could and Mr. Mather, the surgeon of Ashton, supervised the operations at the pithead as the bodies were recovered. By 1 a.m. all the bodies had been laid out in the fitting shop attached to the works and as the news of the disaster spread throughout the district, and loved ones did not return home, sorrowing relatives and friends went to the pit to identify their dead husbands, sons and fathers and to claim their bodies. There unfolded that all too familiar scene that was the hallmark of mining disasters.

The correspondent of 'The Colliery Guardian' captured the mood of the moment very well-

"Pen cannot picture the harrowing scene. Extended on hastily constructed benches, in the dimly lighted workshops lay the stiffened corpses of thirty individuals who a few hours before left their homes in full possession of health and strength, and now were blackened, charred, bruised and maimed remnants of humanity."

By 10 a.m. the preparations for the identification of the bodies were ready and Mr. Jolley, the bookkeeper at the colliery, in the company of Police Inspector Peters and Sergeant Thornley admitted people in relays. There were heart rending cries as the relatives recognised their loved ones. In many cases the limbs of the dead were distorted and many were burnt in the act or raising their arms over their faces to ward off the flames that swept down the tunnel and claimed their lives.

The correspondent of 'The Colliery Guardian' again:-

"One of the first bodies that was identified was that of a father by a daughter, and when asked how she would know him, she said, "He's a big old man -- that's him," and lifting the covering of his prostrate form, she placed her lips to his cheek and sobbed as though her heart would break. Turning from him, she said, "*There's my brother,*" and as his body was uncovered, her lamentation redoubled. (The two colliers in question were James Leyland and his son, Robert.)

The next female was admitted. a fine well-grown girl of from four to five and twenty, passed tearfully along the silent lines, until, arrested at one well-known form, she clung too it in frantic grief, and was lead away by her friends with her face besmeared with the coal dust gathered from the cheeks of her dead husband.

A nice-looking modestly-clad woman entered to search for her husband, and finding him speedily could scarcely be separated from his inanimate form.

A poor crippled old man entered the building exclaiming, '*My lad, my lad,*' and having found his boy, still and cold in the embrace of death, buried his face in his bosom, and gave way to the most heartrending expressions of a stricken heart.

The grief was deepened in intensity by the sound of the workmen's hammers overhead engaged in making the coffins for the deceased."

Even at this early stage there was speculation as to the cause of the explosion. It was known that the firemen had fired all the shots for the day in the mine with the exception of one since the hole had not been drilled deep enough when he made his inspection in the morning and that the shot had not been fired. The lamps were found to be in good order and in the opinion of Mr. Clarke, the explosion was very severe due to the mine being low. This would account for the damage that had been done, with roads and rails being torn up and scattered in all directions. In some places the roof had been blown down in large masses.

Mr. Peter Higson, Her Majesty's Inspector for the district, arrived at the colliery at noon on Wednesday and there was a large crowd of people from Wigan and the surrounding districts at the pit.

Those who died in the disaster were-

James Morris aged 18 years, a drawer of Rose Hill, Ashton.

Timothy Fairhurst aged 48 years, a collier of Whitledge Green who was married with four children.

James Leyland aged 60 years, a collier of Drummonds Lane, Ashton who was married with four children.

Robert Leyland, aged 26 years of Rose Hill, Ashton and son of James.

Edward Fairhurst aged 24 years, a collier of Goose Green.

James Pilling aged 31 years, a collier of Drummers Lane, Ashton, who was married with four children.

John Hurst aged 28 years, a collier of High Brooks, Ashton, married with four children.

William Hewitt aged 19 years, a drawer of Goose Green.

Samuel Liptrot aged 21 years, a dataller of Orrell who was a farmer. He was identified by his old father who said, '*Aye, that is my son.*'

William Sutton aged 20 years, a collier who was married only the previous Sunday and was identified by his father-in-law who was accompanied by the young widow.

John Unsworth aged 22 years, a drawer of Ashton.

John Shepherd, aged 15 year, a drawer of Long Lane, Ashton.

John Oldfield aged 20 years a collier of Ashton.

Michael Parkinson aged 17 years, a drawer of Ashton.
John Hart aged 15 years, a jigger of Ashton.
John Shaw aged 35 years, a collier of Simms Lane End, Ashton, married with four children.
John Saunders aged 30 years, of Whitledge Green, Ashton who left a wife and one child.
Richard Catterall aged 19 years, a drawer of Pemberton.
Thomas Ellison aged 29 years, a drawer of Pemberton.
Thomas Parkinson aged 40 years, a collier of Pemberton who was married with six children.
John Marsh aged 50 years, a collier who left six children besides the two sons that were killed in the explosion.
William Marsh aged 17 years, drawer, brother of John.
James Sudworth aged 24 years, a collier of Ashton who was married with one child.
Peter Lowe aged 17 years, a drawer of Rose Hill, Ashton.
Thomas Fairhurst aged 30 years, a drawer of Aston.
John Molyneaux aged 18 years, a drawer of Pemberton.
Thomas Hill aged 38 years, a collier of Pemberton who left a wife and six children.
Seth Hilcock aged 30 years, a collier of Rose Hill.
George Tollitt aged 20 years, a drawer who lodged with Hilcock.

The public were concerned for the surviving eleven widows and forty children that were orphaned by the disaster. The man of the house was often the father of a large family whose only means of support was his work. The loss of a breadwinner meant that the family were looking at the workhouse or starvation.

Support for the widows and orphans was given by general subscription to a relief fund and in many cases the deceased were members of Benefit Clubs. The Liverpool Mercury reported that Mr. Cartland, the manager of the Old Swan Rope Works, organised of his workforce in an event where a sum £10-2s.-2d. was given to the Relief Fund.

After the verdict had been delivered at the inquest, The Reverend H. Newsham, of Ashton-in-Makerfield, made a statement of sympathy for the widows and orphans to the court on behalf of the colliery proprietors. He expressed his concern for the families of the victims now that they had no means of support and he recommended that a committee be formed to raise money for the relief of the sufferers.

Mr. William Pickard, the Agent of the Miner's Benefit Society said that the owners had been given £1,800 by Mr. Higson, the Mines Inspector from the Hartley Explosion Fund.

The widows of the Park Lane explosion were allowed 5/- a week if they remained unmarried and 1/- a week for every child up to the age that the child was old enough to start work.

The inquest was held at the Park Lane Hotel, Ashton-in-Makerfield and took the usual form of inquests into mines deaths at the time. The first witnesses that were examined were the men and boys who worked, or had worked, in the mine prior to the explosion. Their evidence gives an account of the conditions in the mine and the working practices. Very often there are graphic accounts from the men and boys who were in the pit at the time of the explosion and escaped with their lives. In relation to this inquest, the Coroner expressed his worry that not many of the workpeople came forward to give evidence.

At the first session of the inquiry which was convened for the identification of the deceased, Henry Ashcroft, the underlooker was sworn and he identified the thirty victims. After the evidence of identification was taken, the jury bound over to appear on Wednesday 7th. February 1866.

Immediately after the identification of the bodies, orders were made for the burials which took place on the following Saturday and Sunday in several of the churchyards in the neighbourhood. It was reported in the press at the time that, *'the whole was a scene of melancholy'*.

The inquest into the thirty victims that were killed at the colliery on the 23rd. January 1866 was opened by the County Coroner, Mr. Driffield at the Park Lane Hotel owned by Mr. George Peters which was a few yards from the colliery.

Friends of the deceased occupied the road in front of the public house and it was understood that the proceedings would be formal. A large number of relatives had been summoned to identify the bodies but in the event they were not needed as Ashcroft, the underlooker, was able to give all the evidence that was necessary.

The gentlemen present were Mr. Higson, Her Majesty's Inspector, Mr. Mercer the owner of the colliery and Mr. William Pickard, the Miner's Agent. The jury was sworn in. It consisted of:- Joseph Ashton the foreman, Hugh Lyon, James Prescott, Charles Potter Dob, Aaron Stock, Edward Birchall, John Rigby, Charles Rigby, Robert Unsworth, John Parkinson, John Summer, William Melling and George Peters.

The Coroner opened the proceedings with the following speech-

"On the former occasion of our meeting we merely took formal evidence, by which we might inter the bodies. They were more particularly seen by their friends and identified but it was not necessary to call them in succession as the bodies were clearly recognised by the underlooker, Henry Ashcroft and in any case he should have been mistaken we shall be able to get the particulars with respect to some of the witnesses who may be hereafter be called.

These witnesses, I am sorry to say, are very few, although the inquiry might take some considerable time inasmuch as it will be very carefully made, and no loophole must be left where information can possibly get, particularly as there are so very few witnesses to be called. The witnesses, I believe, number very few over half-a-dozen and, therefore, it behoves us to take that evidence all the more carefully in order to see what amount of information can possibly be gathered from these statements.

I won't detain you further by referring at greater length to the matter at present. I think it will be much more in place to do so after the evidence is heard and, I, therefore, propose at once to call the underlooker Ashcroft to let us know under what circumstances that pit is worked, and the result of his own conviction immediately after the explosion and when the measures were taken for getting the bodies out."

Henry Ashcroft, the underlooker at the colliery, was the first witness to be called. He was in the Five Foot mine at the time of the explosion and he went up immediately and descended the Four Foot mine, where he met William Marsh, William Oldfield, a tunneller and a collier named James Whittle. Ashcroft asked Marsh, '*What was amiss?*' and Marsh replied that he thought that it had fired but he could not tell where.

They set off to explore and soon found that the arch at the foot of the jiggrow was blown down and this had stopped the air and prevented them going any further. He gave orders that the place should be repaired with brattice and it took about an hour before they managed to get air into the jiggrow so that the exploring parties could go forward.

They set off into the workings and soon found a dead boy who they thought was a jigger but did not know his name. As they proceeded they found that all the stoppings were blown down and ordered men to set about repairing them. The five or six bodies that had been discovered were sent to the bottom of the shaft. Most of the bodies were found at their working places and by 11 p.m. all of them had been recovered.

As the rescue parties went round the workings, they encountered some firedamp and afterdamp but it cleared away as the ventilating air was brought in. In evidence to the court, Mr. Ashcroft could not say from where the gas that caused the explosion had come.

The mine was lit by locked safety lamps with the exception of the lad in the jigger who was supplied with a glass flame lamp which was considered to be a safety lamp. Mr. Peter Higson, the Inspector, asked if the lamp was a Clanny or an ordinary lamp and he was told that it had gauze at the top and glass at the bottom so that it would give out more light than an ordinary safety lamp. All but two of the lamps had been recovered.

The lamps were taken down the pit by the men and they were locked at the bottom and if they had to re-light them, the men had to go to the bottom of the shaft. As far as Ashcroft knew, only Mr. Marsh carried a lamp key.

Mr. Ashcroft said that he had inspected the workings on the Monday before the explosion and he saw no signs of gas at all. He considered the ventilation of the mine adequate. Before the explosion boreholes had been sunk in the floor of Leyland's, Pilling's, Hill's, Sutton's, Parkinson's and Morris's places and the floor of Hill's level and they had found a little gas in the floor of Parkinson's place.

Mr. Higson closely questioned Ashcroft about the conditions in the mine prior to the explosion and asked him about a rope that was found attached to one of the ventilation doors. This could have been used to keep the door open but Mr. Ashcroft said it was there because it was easier for the boy to open the door. He was also questioned about the lamps that had been found after the explosion and the competence of the fireman. He replied that he had worked as the overman at the colliery for eight years and the fireman was there before he came to the colliery and he was a very experienced and competent man.

Mr. William Pickard, the Miners' Agent, asked him about the procedure for firing shots in the mine and he replied that the under-fireman, Liptrot had been given permission to fire shots in the mine but he had given Marsh, the fireman, orders that no shots were to be fired if he thought that there was any danger at all. If shots were not allowed then the men were paid from driving with pick, shovel and bar.

This payment was not the general practice in collieries up and down the country and was the cause of many disputes at Lancashire and collieries in other coalfields in the nineteenth century. The use of blasting powder made the work of coal getting quicker and the men could earn better money. The fact that the management of the Park Lane Colliery would pay the men more if they did not use powder was a good move to safer practices in mines and at the time, an unusual one.

William Marsh, the fireman who lived in Downall Green, and was in the district where the explosion occurred was the next witness and he told the court that he had been in the workings twenty minutes before the explosion and was eating his breakfast underground at the pit-eye with a tunneller Thomas Oldfield when the catastrophe occurred. He then went down the slant with Oldfield thinking that the seat of the explosion was in that direction and they met two men coming out who said that the explosion had not been in that district and they returned to the bottom of the jig where they found two ponies and three lads. Two of the lads were unconscious and the other was trapped under a box. They released him and sent the others to the surface. He told the court that the ponies were a little cut but did not say if they were alive.

Proceeding to the bottom of the jig, they found that the arching was blown down and this had shut off the ventilation. The afterdamp had collected there and prevented them from going any further forward.

By this time, Mr. Ashcroft had gone down the pit and joined them and work immediately started to erect bratticing to take fresh air down the jig so that they could continue with the rescue operations. They soon found the body of a boy and William Marsh recognised the body of George Pollitt who was Hurst's drawer and had not worked at the pit for very long.

Mr. Marsh was questioned about the lamps in the mine as they were seen as a possible source of ignition of the gas. He gave evidence that none of the lamps that had been found had been tampered with and not one was found open. Marsh examined the lamps every morning at the pit-eye. It was possible for someone to get past him but he doubted if this as every happened and he expressed the opinion that if anyone tried to do this, the other men would tell him. He examined all the lamps very carefully by putting them over a naked flame. If any man went into the workings with a lamp that had not been examined, then the man would be fined. All the lamps, which were of good quality, were in perfect working order. If men lost their light then they would go to the pit-eye

where the hooker-on would re-light them. At the end of the shift, the men would unlock their own lights at the pit brow where a key was kept for the purpose.

When questioned about the glass lamp at the top of the jig brow Mr. Marsh said that he had examined the lamp on the day of the explosion. It had a lock on the top and which was, in fact, locked and it was intended as a safety lamp but it had never been used to test for gas.

Another possible source of ignition could have been connected with the shots that were fired in the mine. There had been rumours that the explosion was caused by shot firing but the fireman had fired about ten shots on the morning of the explosion and there were four that had not been fired. This was because two were only part drilled and not finished and two others were packed and rammed and ready for firing. Marsh had no doubt that no unauthorised person had fired a shot.

William Marsh testified that he never let anyone fire a shot for him and he always examined the place for gas before a shot was fired. He fired the shot by passing a wire through the gauze of his lamp. The men would wait for him to come and fire the shot and on one previous occasion they waited a hour before he came. On the day of the explosion the last shot that he fired was in Tom Hill's place and one in Sutton's place was fired half an hour before this.

It emerged that some of the men were found up to thirty yards out of their places and they should have been working at the right hand side at the top, which would indicate they had been running away from something that alarmed them which could have been a blower. Their bodies were all burnt to some degree or other.

Mr. Peter Higson, the Inspector of mines asked searching questions about the state of the ventilation in the mine and the occurrence of gas. Marsh said that gas had been found in the mine, sometimes coming from the floor and about two months before the accident, gas had shown in the flame of his lamp but he had never seen the gas in the return air to the furnace.

There had been few complaints from the workmen about the state of the ventilation in the mine. On one occasion an old man named Leyland, who came from St. Helens complained that he was too cold while working on the right hand side at the top of the jig, and the fireman had to prop up his brattice with a pick. A possible explanation for this, could have been because the current of air was too strong, indicating that the ventilation was good and the adjustment of the brattice would lessen the draught in that particular place.

The Miners' Agent, Mr. William Pickard, took up the questioning. He asked Mr. Marsh about past events at the colliery and the occasions that he had mentioned the presence of gas to workmen in the mine in conversation, and some occasions that shots had been fired and gas had come from blowers in the mine. The witness said that he had seen gas fire at the shot hole when the fuse was inserted and he put out the flame with his cap.

Mr. Higson took up the point later and it was pointed out that the flame was easily extinguished before the firing of the shot. This was easily accomplished with a cap and no one saw any danger at the time. Mr. Pickard pointed out that if the hole had been drilled in the small coal, then the flame could go on burning without the knowledge of the man at the face which could ignite any outburst of gas that might occur. The witness agreed with this could be the case.

Further questioning by Mr. Higson and Mr. Pickard of the witness established that the airways were so small that the men had to crawl through them on their hands and knees. Tunnels this size would obviously restrict the passage of air through them but the witness thought that there was enough ventilation in the mine.

Mr. James Whittle, a collier of Rose Hill, was the next witness. He was in the Yard Mine and felt a '*push*' of wind after the explosion. He made his way to the pit bottom and met Oldfield and Marsh and went into the workings with them. He helped to recover the bodies and with the work of repairing the mine. He was then questioned about the conditions in the mine prior to the explosion and expressed the opinion that the ventilation was good and he had heard no complaints about gas in the pit nor had he

seen very much gas. The procedure for the lamps was very strict and no one fired their own shots in the mine.

The next to be called was Thomas Oldfield, a metalman, who lived at Rose Hill. He had identified two of the dead, John his son and William Sutton who was his son-in-law, both of whom were about twenty years of age and were colliers.

At the time of the explosion he was in a tunnel and went to the pit-eye where he found the hooker-on, Marsh and a man named Whittle. He went up the jig and found three lads which he helped out of the pit. The lads escaped with their lives. Knowing that his son and son-in-law were in the pit he went to the surface and did not return. He told the court that his relatives had worked in the pit for along time and he had never heard them complain about gas. They provided their own lamps which were in good order.

John Ashton of Goose Green, who was fourteen years of age, and whose father had been killed at the Blundell's collieries in Pemberton nine years before. His job was to put the empty boxes onto the rope at the bottom of the jig-brow, which he was doing at the moment of the explosion. He had just hooked some wagons on and was sitting down when he felt a wind at his back. He turned round and had dust blown into his face and his lamp went out. He could remember nothing else until he was at the surface having been rescued by Marsh and his party. The two other boys that were with him were John Thomas Morris and William Watkinson who were pony drivers.

Prior to the explosion, he had heard a noise from the roof about the middle of the jig-brow and when he asked Hart, the jigger, what it was and he was told it was a 'feeder.' He did not know what this was as he had worked in the pit for only two months but he described it as a hissing sound which got louder and the explosion occurred a short time afterwards. Hart was killed in the explosion.

The Coroner said that he thought that there would be little useful evidence from the pony lads but as they were the only survivors of the scene of the explosion and they should be called to give evidence. John Thomas Morris, aged thirteen years, was called but could remember nothing of the accident.

William Watkinson, aged fourteen years, was the next to be called and he said that he had heard the sound of the feeder, just as Mr. Marsh passed by him and when Marsh returned he heard him say that he had heard the feeder himself.

William Marsh was then re-called and one being examined by Mr Higson and the Coroner. He said he knew of the blower but he did not think that it could have been so great as to give off the quantity of gas that had caused the explosion.

James Hilton, a metalman of Goose Green, was the next witness. He was in the pit at the time of the explosion and felt a rush of wind. he collected his clothes and put them on and went to the pit-eye where he met Marsh and Whittle. He went up the pit to get some brattice and then went down to help with the rescue operations.

This concluded the evidence that was given by the men and boys who worked at the colliery and the evidence was then started from the expert witnesses. Mr. W.J.L. Watkin of the Pemberton Collieries was the first. He was at the colliery at 4.30 p.m.. on the day of the explosion and went down the pit with his overviewer who he had brought with him.

At that time, there had been about thirteen bodies recovered and he helped to recover the bodies of the remainder. He found that all the lamps that had been recovered were locked and that the greatest force of the explosion was seen in William Sutton's place. He also noted that the coal had been on fire in James Morris's place and there was a large amount of gas and after damp in the workings which had to be removed before they could make progress with the exploration. The last body was recovered at 9.15 p.m. and the pit was cleared that night. He thought that the explosion could not be attributed to the ventilation but he thought that the length of the air currents was too long for safe working. He suggested that the ventilation system could be improved and he outlined his ideas to the court.

As to the cause of the explosion, he put forward the idea that the warrant gave off gas as a blower and that this became ignited by some unexplained means at some point

between Oldfield's and Hill's working places. He also thought that there was gas in the workings that had not been detected by the fireman.

Mr. Watkin did not like the system of lamps at the colliery by which the men bought their own lamps and pointed out that in the Northern coalfield it was the custom for the men to provide the lamps and the mine owners to provide the gauze. This remark prompted an immediate response from Mr. W.J.L. Watkinson, the General Manager of the Pemberton Collieries, Wigan, who wrote to the 'Colliery Guardian' pointing out that most of the owners in the North of England provided their workmen with safety lamps.

Mr. Mercer asked the witness about the wisdom of firing shots in the mine and he answered that the mine made gas all the time and he thought that there was enough in the air at any time to feed a flame once it was ignited.

Mr. C.F. Clarke, mining engineer to Sir Robert Gerard was the next witness who went down the pit at 2 p.m.. on the day of the explosion and found work going on to restore the ventilation. He helped with the work and gave advice on what should be done. On the following day, when the bodies had been recovered, he made an inspection of the mine and found no trace of gas but he saw the major effects of the explosion at the top of the jig-brow, where the brattice was burned and the coal charred. Mr. Clarke gave evidence on the ventilation of the mine and the figures that he gave to the court were interesting. The air had to travel 618 yards from the bottom of the downcast shaft, 572 yards through the brattice and the through the faces, another 560 yards. This totalled 1,750 yards. The air had to ventilate fifteen working places on the day of the explosion and there were three working places that were not being worked on that day. There were forty one bends and turns and there were three ventilation doors necessary to direct the air through the mine, one leading to the first east level, a second in the down brow between the first west level and the third in the in the upbrow out of the east level. Beside these there were some cloth doors between Whittle's and Fairhurst's levels. Coal was brought through these cloth doors and he pointed out that every time they were opened the ventilation would be interrupted. The question of the boreholes that had been sunk into the floor of the mine was investigated. Six or eight had been sunk and only one of them gave off gas but it gave off a large quantity of gas that extinguished the lamps of the men who were present when it was bored.

Despite all this, Mr. Clarke thought that the ventilation of the mine was adequate and he thought the explosion was caused by a large outburst of gas that overpowered the ventilation. In other mines in the district an upheaval of the floor caused by an outburst of gas was known to have occurred and Mr. Clarke referred to such an event at the Bryn Hall Colliery when the gas continued to come out of the floor for months. As to the cause of ignition of the gas he did not know but he thought that it was possible that one of the men had rushed out of the place with his lamp when he heard the gas and that it was possible that the flame had been driven through the gauze. The fact that the bodies of some of the men had been found away from their workplaces could be taken as proof of this.

Some time previously, Mr. Nicholas Wood had published the results of experiments that he had done into the effectiveness of safety lamps and had shown by experiment the flame could be driven through the gauze in certain circumstances could ignite gas.

William Pickard, the Miners' Agent asked Mr. Clarke if he thought the mine was safe for men to work in and Clarke expressed the opinion that it was safe to work with safety lamps but agreed that the ventilation would not always deal with a sudden violent outburst of gas. The answer to this problem was to make boreholes and tap the gas off which should prevent any sudden outburst.

Mr. Pickard was the next to give evidence to the court. He had been down the mine with Mr. Clarke and made an inspection of the workings after the explosion and he told the court that he had to crawl on hands and knees and sometimes on his belly to get over many very large falls of roof to reach the return airway. The only place that he found gas was in the borehole that was mentioned by Mr. Clarke and an accumulation in Hill's place.

In answer to the Inspector's question, Mr. Pickard expressed the opinion that the ventilation of the mine was not sufficient either in quantity or quality but he said he had no knowledge of the ventilation of the mine before the explosion but none of the men had ever complained to the Miners' Association about the state of the mine.

Mr. Pickard did not think that it was wise that the air should have been divided as it was with the crossover. He pointed out that if this place was damaged, then the whole of the ventilation of the mine would be disrupted, as the disastrous events were to prove.

Mr. Mercer, the senior partner of the firm was the next to be examined and he said that every precaution had been taken at the colliery to guard against an outburst of gas. He always asked the men themselves if they had encountered gas in the mine and never took the word of the underlooker and the fireman at face value. He said all the lamps were in good order and that there had not been a case of smoking in the mine for about twelve months. This was a possible source of ignition that had to be looked into. There were many instances of smoking in local pits at this time but it was against the Rules of the Colliery and anyone that was found offending usually found himself in front of the local Magistrates and was fined. In some cases they were sent to prison for the offence.

Mr. Peter Higson, Her Majesty's Inspector of Mines for the district was the last witness to be called. He had made an inspection of the scene of the explosion and had seen the signs of intense heat in Sutton's and Hill's places which lead him to believe, along with other evidence that the seat of the explosion was in the return district.

He believed that the gas came from a sudden discharge from the floor of the mine and he could only speculate on the source of ignition of the gas. Lamps could have become over heated, a shot could have been fired or a man could have been smoking but there was no evidence to show that any of these events had taken place. Mr. Mercer pointed out that when the Inspector had taken his ventilation measurements in the mine, the furnace had been cleared out and repaired and was not working at its full capacity.

Mr. Higson thought that the ventilation of the mine was sufficient for its normal working but there was not enough air to dilute any sudden increase in the volume of gas. The Arley Mine, as the Four Foot was known, was well known in this part of the Lancashire coalfield for its treacherous character and outbursts of gas from the seam were well known. It was known as a fiery mine in Ince, Shevington and Coppull.

This brought the evidence to a close and the Coroner gave his summing up to the jury who retired to deliberate.

The Coroner made his closing remarks and the jury retired to consider its verdict. They returned a quarter of an hour later and delivered the following verdict-

"We, the jury, find that James Morris and twenty-nine others came to their deaths by an explosion of firedamp at the High Brooks colliery on 23rd. January but by what means or by whom the gas was ignited there is no evidence to show.

The jury are unanimous in stating that they are of the opinion that the mine in which the calamity has happened has been properly conducted, and that there is no blame to be attached to the proprietors of the said colliery."

Several aspects of the verdict were commented on by letters to the local press, some on the technical aspects of the colliery and some on the more human results of the disaster. In the Wigan Observer of 28th. February, 1866, it was reported that a correspondent to the Manchester Guardian who signed himself P.H.H. wrote-

"A Coroners jury often volunteer answers to questions not referred to them and not infrequently do a little mischief thereby. The jury at the inquest into the High Brooks explosion did this last Wednesday when not content in finding that there was no evidence with what and by whom the gas was ignited they added that they viewed unanimously that the mine was properly managed and that there was no blame attached to the proprietors.

Now that opinion may or may not be correct but the coroners jury was never asked to decide competence. The question for them was first, how did he deceased come to their deaths and secondly was anybody guilty of murder or manslaughter. They

very properly declared that they thought no one was proved guilty but they had no reason to go beyond that.

Were the managers of the colliery and its proprietors faultless. It was unjust for the jury to do so for several reasons. First it is improbable that any colliery in which an explosion has taken place has been properly managed, that it is supplied with ample ventilation to dilute and render harmless any probable amount of explosive gas. Safety lamps were securely locked and examined for gas at sufficiently short intervals so that conditions essential to safety were fulfilled the management of the mine was not proper. Its managers were culpable.

Claims for those who were killed by the explosion for compensation were lost by the owners neglect. The coroners jury had no right to decide on this important question and prejudice any claims on behalf of the relatives. This decision appears contrary to the evidence and the Inspector said that 'omitting that there was sufficient ventilation to keep down the gas that gradually escaped from the workings of the mine I believe that there was not sufficient surplus to cater for any emergency that might arise', and yet the evidence to the jury was that the ventilation was not sufficient.

The jury decided that the management was a proper management. That could have been a point that was tried in a higher court and before a Judge. Before that is done it will be decided that the management is blameless."

This was a question that was being asked in many of the mining areas of the country at the time. At the inquest into the Ferndale explosion, Glamorganshire, in which one hundred and seventy four men and boys lost their lives on 8th. November 1867, the Coroner, Mr. Overton, made this statement in his opening remarks at the proceedings-

"The Law in connection with disasters is imperfect as it is difficult to say if an offence had been committed and who was to blame. The Mines Inspection Act is badly framed and ambiguously worded. Convictions can not be made certain and few had the courage to attempt to convict. This gives rise to a miscarriage of justice. Parties have been sent for trial at assizes and have been acquitted and the inference is that there is no legal responsibility under Lord Campbell's Act. It is a illusion to think that a widow or an orphan could take an action against a wealthy and formidable Company."

A letter to the editor of the Colliery Guardian from Mr. W. Hopton of St. Helens, dated 20th February, 1866 commented on the more technical aspects of the calamity-

"Sir,

After an accident many are able to say what 'ought' to have been done, but few can show beforehand the course to be pursued to ensure safety. Yet it is well to learn from of the past such lessons as shall ensure prevention for the future. Having read the evidence on the cause of the explosion at the Park Lane Colliery, by which thirty men and boys were killed, it is my opinion that the proprietors had done all in their power to make the workings safe, and that there was no deficiency of ordinary foresight, nor any arrangement neglected that could have ensured the safe working of the colliery.

The distance the air had to travel from the downcast around the workings back to the upcast was 1,750 yards, in the which it had to pass around eighteen working places, and then provide ventilation for thirty men and boys. This work of the air would not, in my opinion, be very great under ordinary circumstances, yet in mines giving off much explosion gas, and subjected to blowers, and also the uplifting of the floor, from which a large quantity of gas is generated, it is well to make a change in the mode of ventilation. Much was said as to the distance that the air had to travel, the number of works and persons ventilated by the air, and also the amount of gas generated. I beg to say the quality of air should not be always in proportion to the distance it travels, nor the number of works it has to pass around, not the number of persons for whom the ventilation is provided neither should the air be split in proportion to its distance to travel, or the number or works to ventilate,

or number of persons employed but the quantity of air and the number of divisions should be in proportion to the amount of gases generated, because one mine generates more gas than another. If much gas is generated there ought to be much air, and if the explosive power (gas) be great, that great power should be divided by separate air currents. If separate currents are adopted, each division of air should be sent into the workings in a proper way, as there is a right and a wrong way of conducting pure air into the workings. By one way all the gases are brought from the workings into the wagon roads, by the other way they are conducted away with the air therefrom on the returns, where no persons except those duly appointed to pass and repass. This mode Peter Higson Esq. recommended in his evidence when he stated that the air should be sub-divided, so that in the event of an explosion it would not destroy the whole of the workmen. Every principle tram-road should be so ventilated with pure air from the downcast that a naked light might be used therein safely. If this result be not attained, something is wrong with the ventilation or with conducting of the air through the workings. When thirty lives have been lost, and the air is still conducted through the workings on the same principle, there must be a danger every day of a repetition of the occurrence, with a similar fatal result. Not that the proprietors of the Park Lane Colliery intended to do so - far from it they, in my opinion, will be too glad to make an improvement if possible for the safety of the men. What I wish to insist upon is this, that if a loss of life is to be prevented, separate and distinct currents of air must be adopted in those mines generating and giving off much and large blowers of gas.

Yours, &c.,,
W. HOPTON."

On the evening of Saturday 14th. January 1866, there was a meeting with Mr. William Pickard, the Agent of the Miner's Benefit Society and the men who worked at the colliery to review the evidence given to the jury at the inquest.

They were trying to establish that juries at the inquests into mining accidents, should consist of half practical miners. This, they thought, was a way to properly consider the nature of the accident. There was also a feeling among the men that the verdict of the jury was in direct opposition to the facts that emerged in the court hearing and they passed a resolution to this effect.

In another letter to the Wigan Observer which said what many thought at the time-

"Sir,

Now, Sir, who can doubt after that after what the above two witnesses (Mr. Higson and Mr. Pickard) state but what there was some neglect in conducting the management of the pit in question. The witness said that there was too little air and in consequence the gas accumulated and the explosion occurred by which the men lost their lives, but had there been an adequate amount of ventilation designed to dilute noxious gas as the Act of Parliament demands there should be, the explosion should not have occurred and the poor families would still have been protected by a husband and father but for all the Act of Parliament, the jury was of the opinion that the mine was properly conducted. We can scarcely believe what we hear but I heard an old collier say the other morning, 'They may make the Cockneys believe it but they can't gull an old collier who has been nine years a fireman'. But, Sir, so long as Government allow blasting and powder to be used in mines so long we shall be startled by these fearful accidents and loss of life but let Government debar powder where lamps are exclusively used and grant compensation in all cases and then I will venture to say that explosions will hardly be heard of

Yours truly,

T.A.T

21st. February 1866."

GARSWOOD PARK Ashton-in-Makerfield, Lancashire. 4th. May, 1866.

The colliery was owned by David Bromilow and Company. There were several seams worked at the colliery including the St. Sebastian, the Rushy Park and the Little Delf. The coal from the Little Delf was brought to the surface up the upcast shaft which was 400 yards deep and it was in the latter, which were the top workings, that the explosion took place. At the time there were 120 to 180 people underground but only twelve lost their lives.

Samuel Mather, was the underlooker at the colliery with Thomas Molyneux the underground manager who assisted by his son. The works in the mine had been going on for four years. It was believed that the explosion had come about by a shot which was fired in Richard Swift's place. Joseph Topping, the fireman, had visited the place between two and three o'clock on the morning of the accident. Swift had just commenced work and Topping did not notice any accumulation of coal at the end of the brattice and found no gas on his morning's inspection.

The victims had all been found before three o'clock with the exception of Richard Swift and there was no hope left for him. Dr. Gaskell was sent for and attended the injured and a telegram was sent to David Bromilow who was in Liverpool at the time.

A list of those killed was reported the in local papers-

Richard Swift, aged 30 years. Married of Smarts Row, Parr.

Peter Swift, aged 18 years. Not married.

Henry Anders, aged 48 years. Unmarried of Islands Brow, Parr.

Thomas Harrison, aged 28 years of Fingerpost.

Peter Molyneux, aged 46 years. Married of Back Lane, Parr.

James Knowles, aged 16 years, a lad of Park Road.

Ralph Kilshaw, aged 11 years, a lad of Marsh Bridge.

Peter Thomas aged 12 years of Moss Bank, Windle.

Peter Beetle aged 16 years of Coal Pit Lane.

William Swift aged 20 years of Croppers Row.

Thomas Anders, married of Park Road, Parr.

Peter Thomas, married of Moss Bank, whose son was killed.

John Swift, Henry Finney, William Roughley and John Mills were rescued alive but died later bringing the death toll to sixteen. In his report, Peter Higson refers to the deaths of 'fourteen' persons but on the plan of the workings in his report he lists sixteen victims. It was reported that those who were injured were progressing well.

The 'St. Helens Standard' open a subscription for the dependants of the victims of the explosion. Mr. E. Sullivan of Ravenhead, St. Helens formed a committee with Col. Gamble, Rev. R.J. Ward, Dr. McNicholl, H.R. Lacey, Samuel Robinson Esq., Mr. J. C. Anders and Mr. R. Thompson.

At another meeting, of the Committee of Miners was appointed to collect for the Relief Fund at The Black Horse Inn at Parr. Mr. William Pickard was appointed chairman. Subscriptions had been made by many local collieries which amounted to almost £3 each and 30/- for each boy under 12 years or girl under 14. The fathers also got 30/6d. for each son killed. The money was distributed as follows- Mr. Molyneux, £4-10-0d., Mrs. Anders £7-10-10d., Mrs. Harrison £7-10-0d., Mrs. J. Swift £6-0-0d., Mrs. Swift £7-10-0d., Peter Thomas £1-10-0d., Charles Knowles £1-10-0d., Mrs. H. Swift £1-10-0d., Mrs. Mills £1-10-0d., Mrs. Meadowcroft £1-10-0d.

Trustees were appointed for funds that might yet come. Mr. John Stock and Robert Woodward of Haydock, James Atherton of Blackbrook, with Mr. Peter Anders was elected secretary. There was an application in the hands of the Trustees by Mrs. Smith, whose brother had been killed but the committee, after enquiring into the matter decided that no case had been made out.

The inquest took place at the Ship Inn, Blackbrook, before Mr. C.E. Driffield. The jury was made of the following local men, Thomas Aspinall, a farmer of Downall Green, John Hill, lamp maker of Senley Green, Henry Rose, a gentleman of Downall Green, Thurston Fairhurst, a farmer of Arch Lane, Moses Phythian, a farmer of Arch Lane, John Sumner,

a grocer of Millfield Lane, Haydock, Daniel Holland, a collier of Park Road, Parr, Thomas Sharples, a collier of Park Road, James Finney, a collier of Park Road, Joseph Bridge, a collier and Thomas Greenall, a publican. Thomas Aspinall was elected the foreman.

Samuel Mathers, the underlooker told the court:-

"I was in the pit at the time of the explosion, in the lower workings. The explosion took place in the upper workings. I became aware of the explosion on account of a rush of wind. I had then, no knowledge of where it had happened. I met John Topping bringing out John Swift. He was living at that time. I afterwards met Joseph Parr, one of the firemen, who assisted me to explore. We soon came upon Peter Swift, a drawer. h was dead. I then went on 60 yards down the brow and found James Knowles who worked for his father. he was dead. William Smith was lying near to him, alive. I we met Peter Thomas who was then alive and the next was Ralph Kilshaw a boy of 11 years of age. I found Harry Anders, he was dead and on the left side of the brow I found Richard Swift about 60 yards from the top of the jigger."

Thomas Molyneux, the manger of the colliery, gave evidence as to the layout of the mine and Mr. Higson, the Government Inspector also gave his expert testimony.

The Corner summed up the evidence and the jury retired to consider their verdict. After about half an hour they returned the following verdict-

"We find Thomas Harrison and eleven others came to their deaths by an explosion at the Garswood Park Colliery on the 4th. May through necessary precautions not having been taken by Richard Swift, deceased, previous to his firing off his shot. We recommend that the latter part of the ninth rule, which requires *'that no shot shall be fired except in the presence and by the direction of the fireman or underlooker'* be, for the future, strictly applied to the mine."

In his report Mr. Higson commented-

"One of the deceased was driving a cut-through down hill between two upper levels and put a large quantity of coal which he had got into the level which prevented the ventilation reaching the end of the level where the gas must have built up.

The gas was fired by a shot which he fired without seeing if there was gas present. The shot hole pointed to the place where the gas had accumulated. I could not justify the complaint about the ventilation bit I express my opinion strongly that colliers in fiery mines should not fire their own shots and that the practice of naked lights should be abandoned."

FURZEHILL. Horrabridge, Cornwall. 12th. May, 1866.

The mine was the property of Sir Massey Lopes and was about half a mile from Horrabridge Station on the Plymouth and Tavistock Railway. The manager was Captain Doidge and the mine was extracting copper near to an old mine of the same name which had not been worked for along time.

On the day of the of the disaster the men had been down and working for some time driving in the Forty Fathom Level to the east. Captain Doidge was just about to go down when he saw water rising quickly in the shaft. Michael Yeo, one of the men who lost their lives, had shouted that the water was coming in and the boys at the bottom of the shaft just had time to climb the ladders to safety. The captain tried to get down the mine but the water was rising too quickly and drove him back.

Those who lost their lives were-

Michael Yeo aged 27 years,

Silas Pike aged 22 years,

John Fox aged 15, his son,

H. Thomas aged 20 years,

Benjamin Gorman aged 37 years.

Henry Fox aged 45 years. married with one child,

William Elford aged 39 years married with four children and
Thomas Wotton aged 24 years, married with three children.

It was realised that the old workings had been entered. The Captain stated that there was no sign of water. It was believed that Henry Fox was the miner who had broken through. Pumps which could raise 170 gallons an hour were installed but the water went down only at a rate of two inches per hour and it was several weeks before the bodies were recovered.

DUKINFIELD. Ashton-under-Lyne, Cheshire. 14th. June, 1866.

The colliery was the property of F.D.P. Astley and thirty eight men and boys lost their lives in an explosion.

Those who died were:-

John Lomas aged 20 years , miner.
Henry Noble aged 14 years.
William John Taylor aged 56 years, miner.
Terance McHugh aged 19 years.
Patrick McHugh aged 22 years, brother of Terance.
Joseph Armfield aged 17 years.
Robert Armfield, aged 17 years, brother of Joseph.
Thomas Smethurst 15 years. miner.
Samuel Hudson aged 15 years.
Richard France aged 36 years who left a wife and five children.
John Thomas Buckley aged 11 years.
William Mellor aged 42 years, miner.
John Gee aged 34 years.
Thomas Gregson aged 18 years, miner.
James Mercer aged 34 years.
William Chorley aged 51 years.
William Harratt aged 49 years, left two girls.
John Elliott aged 40 years
James Haslam aged 34 years.
George Phillips, underlooker with five children aged 33 years.
Luther Warren aged 13 years.
James Brennan aged 19 years.
William Quinlin aged 24 years.
John Rixon miner aged 27 years who left a wife and two children.
William Booth aged 24 years, miner.
Charles Booth aged 22 years.
George Robinson aged 20 years.
William Martin aged 26 years, miner.
Samuel Johnson aged 21 years.
William Ashton aged 22 years.
William Garrett, miner aged 44 years.
James Hill aged 23 years.
David Clayton aged 28 years, miner.
Samuel Norton waggoner aged 14 years.
William Ernest Kay aged 15 years.
John Shore aged 14 years.
Thomas Hooson.

Those who were injured were:-

James Winterbottom.

Edward Hidgkins.
Samuel Ramsbottom.
Joseph Wild.
Joseph Phillips.
John Walker.
John Pickup.
John Brooks.
Martin Burtenshaw.
George Bullock.

PELTON. Chester-le-Street, Durham. 21st. October, 1866.

The colliery was the property of Lord Dunsay and Partners. The colliery had recently sunk to the Busty Bank or Harvey seam and the workings were only to a limited extent. The seam had been worked at other collieries in the district for many years and was known not to give off much gas and it was considered that there would be little firedamp at the Pelton Colliery. Even so the seam was worked by safety lamps but shots were fired in some of the narrow places by means of probes of wire and touch paper. The colliery was ventilated by a newly installed Guibal fan, which the owners of the colliery had installed at great expense, and this met with the full approval of Mr. Atkinson, the Inspector.

Mr. Armstrong, of Wingate Grange was the principle viewer at the colliery and he had held the post since 1862 when the only seam worked at the colliery was the Hutton which was ventilated by a furnace. The workings of the Hutton seam extended in all directions and were described as extensive and ventilation had become a problem To overcome this, another furnace was added and there were two downcast shafts, which were working shafts and the engine shaft was also used as a downcast. The depth of these shafts was about 57 fathoms.

Mr. Armstrong went on to give an interesting accost of the development of the mining operations at the colliery-

“The sinking of the Busty Bank seam of coal by two independent shafts which had no connection, except for ventilation, with the working pits of the Hutton Seam, was then commenced, and we ventilated the Hutton Seam workings, and the exploring places in the Busty Bank Seam with the two furnaces in the Hutton Seam we had improved the Hutton Seam air courses, and in November 1864, we were able to get in the Hutton Seam a principle ventilation current of 21,450 cubic feet of air per minute, and in the Busty Seam a current of 11,000 cubic feet per minute. We found, however, That we could not efficiently ventilate both the Hutton and the Busty Seams without some additional ventilating power.

I have seen several fans in different parts of the country and had examined two in this district, one at Elswick and another at the Tursdale Collieries, and as we only obtained an extra 7,000 cubic feet of air per minute from the second furnace, it was useless to add another furnace, and I conferred with our inspector, Mr. Atkinson, as to the most efficient ventilating power for the case. We agreed that the fan patented by M. Guibal, of Belgium, was the most efficient, and a agreement was made with M. Guibal for the erection of this fan. One condition of this agreement was, that it should be of such power as to extract 100,000 cubic feet of air through the workings of our colliery per minute, when subjected to a frictional resistance equivalent to three inches of water.

The fan erected was 30 feet in diameter, and 10 feet in breadth, and it was started on 21st. October 1865, little more than a year ago. Before M. Guibal was entitled to his money for it, the fan had to be tested, to see whether the condition of 100,000 cubic feet per minute through the workings was performed or not (a detailed register of the experiments were handed in).

This test was made and we found that by keeping the motion of the fan as nearly uniform as possible, at 64 revolutions per minute, we obtained with a water gauge of two and a half inches, 98,488 cubic feet of air per minute, as an average main ventilating current and with a water gauge of two and a half to three inches we obtained 91,000 cubic feet as a minimum to 106,000 cubic feet as a maximum, per minute.

About the same time, and before finally adopting the fan as the ventilating power for both seams, some experiments were made with the two furnaces and it was found that the main current in the Hutton Seam was only 31,720 cubic feet per minute, and that when the small ventilation to the Busty Seam, was cut off and the two furnaces limited to the Hutton Seam only, not more than 35,245 cubic feet per minute was the maximum could that could be exhausted.

We then adapted the fan to work in both the Hutton and Busty pits. this was in October 1865. The fan has been constantly at work from the first day of its erection to the present moment. we stop it on Sunday mornings for a short time to determine that all the fittings are complete, we oil the machinery belonging to it two or three times a day, never stopping its motion but only reducing it's velocity."

The workings of the Busty Bank Seam were divided into two districts, north and south. The latter was over an area of seven acres but those in the north did not exceed four acres. The mine was worked with locked safety lamps which were locked by the deputies at the bottom of the shaft and there was no need to blast except in the winning headways. The deputies inspected the places where the shots were to be fired and the shot was fired by a hot wire and touch paper. All the men had copies of the rules and the deputies inspected the working before the men went down in the mornings. There were two fore shift deputies and two back shift deputies and inspected by the overmen. There had not been any reports of gas in the mine.

On the morning of the disaster the wall in the fifth bord was holed into the next bord by the hewer and a passage made and there were several falls at the time of the explosion.

Wives, mothers, brothers and sisters went to the pit head. At about 6.30 some men were brought to the surface. They were dreadfully scorched and were taken home in carts to be tended by doctors.

A local reporter described the scene-

"A sad scene was enacted on that cold October morning. The men came up with something that was blackened and wrapped in a blanket. The name was mentioned and where he had been found. There was a scream from a woman in the crowd. This was repeated many times."

Those who lost their lives were-

Robert Curry aged 12 years, driver.
Robert King aged 18 years, putter.
William Elliot aged 11 years, driver.
Joseph Gladstone aged 11 years, trapper.
George Cook aged 22 years, putter.
John Frecker aged 14 years, flat boy.
Richard Argyle aged 13 years, coupler.
John Simpson aged 22 years, hewer.
John Anderson aged 18 years, wood-leader.
John Gray aged 32 years, a deputy.
John Maddison aged 22 years, deputy.
John Bell aged 19 years, hewer.
James Dixon aged 20 years, hewer.
Robert Weddle aged 34 years, hewer.
William Felton aged 11 years, coupler.
John Laverick aged 27 years, hewer.
Henry Bateman aged 19 years, putter.

John Carter aged 52 years, hewer.
John Richardson aged 28 years, hewer.
Roger Brown aged 39 years, hewer.
John Taylor aged 41 years, hewer.
William Charlton aged 20 years, hewer.
Henry Gray aged 38 years, hewer.
George Oughton aged 18 years, putter.

Edward Lowes, the deputy overman who had charge of the shift working in the south side of the Busty seam at the time of the explosion. Evidence was taken from a large number of men who had worked in the mine and they all gave good reports of the ventilation.

The Coroner summed up and the jury retired to consider their verdict. It took them a quarter of an hour to return the following-

“Jonathan Maddison and others did die on the 21st. October, 1866 from an explosion of gas in the Busty Seam at the Pelton Colliery but as to the cause of the explosion we have no evidence to show. We are also of the opinion that negligence had been manifested by the officials down the pit in not enforcing the rules and also on the part of the men for not carrying them out.”

HOMER HILL. Cradley, Worcestershire. 1st. November, 1866.

The colliery belonged to Messrs. Evers and Sons. It was a new pit with the shaft being sunk in 1865 and was 270 yards deep. The fireman went down and found the ventilation all right and about 40 to 50 men were lowered. Mr. Foley the manager went down the shaft and was near the miners when there was violent explosion. Mr. Foley was knocked out by debris. the explosion happened about 500 yards from the bottom of the shaft and the men were burnt and were able to make their way to the shaft and get up the shaft but John Edwards and a man named Guest had to be carried. Sixteen were found to be injured and taken to their homes in carts and visited by the colliery owner.

The inquest on the bodies of:-
William Westwood,
John Edwards,
George Griffiths,
William Gordon,
Eland Burnbrook,
Jesse Heathcot Francis Burrell Daniel Hart and
William Buddleton was held before Coroner R. Docker.

The deceased were nine of the twelve who died in the explosion.

Edward Dovui said he was working at the pit at the time of the explosion and was loading in the Nine Feet workings about 7.30 when he felt a rush of air and saw the candles blowing. he knew something had happened and he threw himself down and the air was followed by fire. He did not hear any report and he was burnt on the face and hands but he was able to walk to the bottom.

John Andrews, collier, was also loading at the time of the explosion and he was one of the first to go along the road after the pit had been examined and he caught a glimpse of the fire coming down the tunnel but it reached him before he could get down and the fire passed him and went to the bottom of the shaft

The inquest on the three other men was held at the Bluebell Inn, Quarry Bank, before Mr. W.H. Phillips, Coroner.

William Hadock,

Solomon Guest and
John Poulton.

The jury found that the deceased were 'Accidentally Killed' and were of the opinion that the blame rested on the fireman for not examining the back opening properly,

SHANKHOUSE. Cramlington, Northumberland. November, 1866.

The colliery was the property of Messrs. Taylor and Lamb. The first reports were that there was very great loss of life and these reports appeared in papers as far distant as the '*Yorkshire Post*' and the '*Manchester Courier*'. There were two shifts down the pit when water entered and rose very quickly to flood the mine to a few feet from the top of the shaft.

Four Cornishmen were brought in during some industrial unrest and they were working towards old workings on Wellington Flat and the water rushed in with terrible force. One man, tried to make an effort to save others fell, from the scaffold in the shaft and was drowned.

Under the direction of Mr. Telford the viewer and Mr. Maughan the engineer erected a temporary pulley. Most of the men got out of the pit.

MORE DETAILS AND VICTIMS REQUIRED.

BEDWELTY. Tredegar, Monmouthshire. 4th December, 1866.

The colliery was owned by the Tredegar Iron and Coal Co. in which the partners were Messrs. Freeman, Fothergill and Humphray. It was worked with naked lights but if gas was found lamps would be used. On the morning of the explosion David Jones and his son were issued with lamps. It was their duty to go down the mine first and test for gas and if any was found to report to the fireman.

There was a gas notice up and they should not have tested until either the gas had been cleared or until they had orders from the fireman. It was concluded that they had not done this for at 10.30 a.m. there was a sudden rumbling explosion. The effects of the explosion did not reach the bottom of the shaft and exploring parties were able to get into the pit and soon set off. They found that the gas had fired in the Black Vein workings where 46 men and boys were at work in that place.

Many had got out of the mine and had escaped the chokedamp but many had not and bodies were brought out of the pit. News of the tragedy reached Tredegar one and a half miles away and people gathered in their hundreds at the pit top. Mothers were seen in tears for sons, wives for husbands and children for fathers. In one case a father and two sons were killed. Two brothers and a father and a son also lost their lives.

THE VICTIMS REQUIRED.

BANK. Little Hulton, Lancashire. 10th. December, 1866.

The colliery was the property of John Wright and eight men lost their lives as a result of an explosion in the west workings of the Cannel Mine. Twenty two men and boys were burnt or injured by the blast and all of them were brought out of the pit alive. The eight died later from their injuries.

They were brought out of the pit by Adam Eckersley, a fireman in another part of the pit who promptly went into the workings and rescued many men before he became unconscious from the afterdamp. When others came they got him out but found that all in the mine were suffering from the effects of the gas.

The Cannel Mine was known to give off gas but the workings were small and the ventilation very strong and no firedamp appeared in the workings before the explosion, nor was any found the following day by the Inspector, Mr. Joseph Dickinson. The

underlooker and fireman had just left the place seeing everything was all right. The miners did not find them there and opened two lamps which ignited the lamps and burnt everyone who was in the mine but those who were in the intake near the bottom of the shaft escaped unhurt.

Those who died were-

Peter Swindells aged 27, miner.

John Swindells aged 21 years, miner.

James Grundy aged 21 years, miner.

Levi Rushton aged 20 years, miner.

John Glynn aged 15 years, wagoner.

Thomas Robert Nuttall aged 21 years, miner.

William Swindells aged 30 years, miner.

Samuel Council aged 12 years, wagoner.

The explosion was clearly the result of a sudden outburst of gas which came as a result of a roof fall. The air became fouled and was carried by the ventilating current into the return air way and would have passed harmlessly up the shaft had not the safety lamps been unlocked and opened.

TALKE O' TH' HILL. Talke, Staffordshire. 13th. December 1866.

The colliery was in the Parish of Talke about a mile from Hardcastle Station and was owned by the North Staffordshire Coal and Iron Company. There were two shafts. Both the downcast and upcast were 11 feet in diameter. The first workings were reached at 160 yards and were in the Ten Foot, where 20 men were employed. The intake there was 5 feet 6 inches by 7 feet. In November, Mr. Wynne, the Inspector, measured the air going in there and found 18,000 cubic feet per minute. The Truro were the next workings at 200 yards with an intake 5 feet square and 9,000 cubic feet per minute entering these workings. Fourteen or fifteen men were employed there and there were no complaints to the Inspector by the men. The greatest length of the workings was 500 yards from the shaft and each of the workings were ventilated by a furnace. The opening into the Seven Feet workings where the explosion took place, was 6 feet by 6 feet 6 inches and were 300 yards deep. In the upcast shaft the opening into the Ten Foot was 10 feet by 5 feet 6 inches and that into the Truro 10 feet by 8 feet. There was an opening into the upcast from the Seven Foot and there was an opening at the mouthing from the Seven Foot into the upcast shaft at the time of the explosion.

There were 150 men down the pit at 5 a.m. when a loud report and flames rushed up the shaft and the county side was covered with soot and the shock was felt half a mile away. The explosion took place at 11 a.m. on Thursday and the first reports said that about one hundred lives had been lost.

Anxious people gathered at the pit and they hindered the rescue attempts. The colliery manager, Mr. Johnson cleared the pit bank and the cages went down the nine and 50 terrified lads were brought up the No.2 shaft and several were brought up the No.1 but they were burnt. The rescued were revived with brandy. The injured were tended by Messrs. Barnes Bruce and Greatorex and in the incumbent of Talke, the Reverend M.W.M. Hutchinson comforted the families.

Frequent relays of workers went down the pit but were met with a very damp atmosphere and many of them men who had got out of the No.2 shaft volunteered to go down. The bodies lay apart from their limbs and several were headless. There were forty three dead and thirteen injured and they were thought to be 40 to 50 still in the pit. The stables had fired and the 7 or 8 horses had been killed the bodies of the dead were washed and then identified by their loved ones.

Those who died were:-

Thomas Moulton, single.
Noah Taylor, married and family.
Charles Dulton, single, son of Edward Dulton.
Samuel Bentley, married, no family.
George Hicks, married with four children.
John Maddere.
Spencer (no christian name), married.
Matthew Scrait(?), single.
James Thomason, married.
Ephraim Cumberland.
Allen Turncock, boy.
Samuel Slater, single.
David Higgins, married and family.
George Kent.
Edward Derby, married with child.
George Reaves, boy.
Samuel Kenynon, married with five children.
William Ratcliffe, married with four children.
James Sproston, single.
Thomas Knowles, widower with six children.
William Jenkinson, married with two children.
Frederick Bally, single.
Edward Dutton, married with four children.
John Hart, single.
James Boughey, married with three children.
Thomas Murray, single.
Peter Frost.
John Breeze, boy who supported his mother.
William Stanley, married, no family.
James Johnson, married with four children.
Samuel Cartlidge, married, one child.
William Arthur, boy.
Thomas Jenkinson, married, five children.
John Macbeth, boy.
Frank Brerton, boy.
David Rigby, boy.
James Rigby, boy.
James Booth, single, supported widowed mother.
Henry Critchley.
William Archer.
William Frost.
Henry Denby, boy.
John Billington.
William Robinson, single.
Joseph Yoxall, married, three children.

The remains of these forty eight victims were removed to the Swann Inn and identified with eight or ten others who had been badly disfigured. The remainder of the dead, including those disfigured, were brought out by the following night.

James Bidders.
Thomas Griffiths, single.
John Grindley, single.
William Booth.
Walter Fletcher.

John Yoxall.
Daniel Johnson.
James Finney, married, two children.
John Vernon.
Thomas Beresford.
George Kent.
Michael Fletcher.
Ralph Henshall.
Joseph Browning.
Thomas Blackhurst.
Thomas Daniels.
Edward Clewes.
Peter Twist, single.
George Boughey.
William Trot.
John Beddow, single.
George William Evans, married, two children.
Samuel Harrison, widower, two children.
William Robinson, single.
Daniel Ball, four children and supported his mother.
William Washington, single.
Ralph Cartwright, married, three children.
James Oldfield, single.
William Stanley, married, one child.
Noah Billington, married, two children.

The inquest was opened into the death of Nicholas Fletcher and 90 others who were killed in the disaster dead in the explosion.

Mr George Johnson was the general manger and there were two firemen on that turn James Sharples and Samuel Kenyon. James Blossoms and George Hides were the night firemen that week. Hicks had taken Sharples' turn on that day as he had hurt his shoulder. Mr Johnson heard the explosion as he was coming down the steps of his house and saw the smoke coming from the pit.

The first person he met was Thomas Nicholls who had responsibility for the underground workings, who went down into the pit alone. Nicholls gave his evidence to the court. He said:-

"I have been underground manager at the colliery for seven or eight years. I have to see that all is right in the workings, and that the rules are properly attended to. I was last in the works, before the explosion, on the Tuesday afternoon, and in that part where the explosion took place. I saw nothing at all wrong with that place, but all was clear. If the fireman finds anything wrong when he examines the pit in the morning, the overman sends me a note up. No note was sent up on the morning of the explosion. I got to the pit about 6 a.m. on that morning. I believe the workings were examined by Samuel Kenyon. he is dead. Had he failed to discover it would have been the duty of Nicholas Fletcher, the overman, to report him for a breach of the 20th. Rule. The colliers themselves would expose a neglect of this kind. I have never received a report that any fireman had failed to perform his duties. Shortly before the explosion I was going down the pit with Wilkinson and Billington, but was called off for a moment. They went down, the explosion took place and they were killed.

as soon after the explosion as possible I made arrangements for the men to come up by another shaft, and then prepared to descend the shaft up which the smoke caused by the explosion had been driven. I shouted down and was

answered, upon which I went down the shaft. That was certainly under an hour. When I got to the bottom I found a number of living men there and I sent them up as fast as I could. I think there were four or five cage loads and there might have been 20 or 30 men.

The men are not permitted to use naked candles but safety lamps are provided. James Oldfield was the lampman that morning and it was his duty to see that the lamps were locked before he gave them to the men. They were locked by a direct screw. When the colliers finish work they deliver the lamps up at the lamp office on the pit bank. Each lamp is numbered, and everyone has his own number. Gunpowder was used for blasting in the workings in which the explosion took place. It was the duty of the firemen to see that the blasting was properly carried out. Gunpowder is used day and night when the occasion requires. I do not think that blasting had anything to do with the explosion, for no shots had been fired recently. I am not aware of smoking having ever been practised in the pit. I have never received a report to that effect. I have never smelt smoke in the pit. There is a rule prohibiting smoking."

VERDICT

The jury retired and returned the following verdict an hour afterwards:-

"We find that Nicholas Fletcher and 90 others met their death by an explosion of gas in the north Staffordshire Iron and Coal Company's Banbury Mine of the 13th of December last. No positive evidence has been brought before us to show how the accident occurred but we are of the opinion that an accumulation of gas had taken place in some lower workings, in consequence of the upsetting of a train of coals in a doorway, and that the gas coming into contact with a naked light, unlawfully exposed by one of the miners exploded. We find that of the rules and regulations made by the managers of the pit had been carried out as they ought to have been by their subordinates, the explosion might not have taken place. We regret to see the culpable negligence shown by James Bossons and Charles Lawton in violating the rules made for the protection of their life and property in the pit. We should suggest that means be adopted by Mr. Nicholls, the under-bailiff of the mine, for carrying out more strictly the rules of the pit with regard to the men firing their own shots, brushing out the gas themselves, smoking pipes and relighting their lamps in the return air. We cannot too strongly urge upon the Government the necessity of adopting additional inspectors of mines."

The Coroner asked the jury if this meant that the men had come to their deaths in an accidental way and the foreman agreed. The signatures of the jury were obtained to the verdict and they were discharged by the Coroner who thanked them for their valuable service.

THE OAKS. Barnsley, Yorkshire 13th. December, 1866.

The colliery was one and half miles from Barnsley and was the property of Messrs. Firth, Bamber and Company. It had been worked for a great number of years and there had been a disaster there in 1846 when seventy three men and boys were killed.

There were several explosions in this disaster and the first took place on the 12th. December when 340 people were down the mine. Only six of them survived which gave a death toll of 334. In addition to this 27 others who belonged to the colliery and 23 volunteers were killed in a succession of explosions which arose from the pit being set on fire by the first and started in the morning when the workings were being explored.

The first explosion occurred shortly after 1 p.m., and, at the time, it was thought that there were nearly 400 men in the pit when the gas suddenly fired. When the explosion occurred, the banksman was horrified to hear the rumbling explosion in the pit

immediately followed by a tremendous rush of air up the shaft. He knew what it meant and ran to give the alarm but the noise carried to the village of Hoyle Mills where a great number of the workforce resided and within a few minutes, anxious men and women arrived at the pit. Immediate steps were taken to find the cause of the calamity. One of the cages was damaged but despite this, no time was lost in descending the pit. At the bottom of the shaft, eighteen survivors who had come from the workings, were found. They were alive but injured and were got up to the surface as quickly as possible. Local Doctors, Dr. Blackburn and his assistant and Drs. Smith senior and junior, had gone to the scene and attended these men at the pithead.

A newspaper reporter gave a graphic account of the scene at the pithead:-

“From all directions men and women came, the most frantic terror and anxiety depicted on their countenances of those whose husbands, fathers, sons and brothers had, that morning descended the fateful shaft, were all hurrying breathlessly to the Oaks. To endeavour to describe the streams of human beings as they rushed along to one common centre, would be a task of some difficulty. Here was a wife and mother who had been arranging her toilet against the anticipated return of her loved ones she had seen left home at five in the morning so unsuspecting of danger - alas for the mutability of human anticipation - half running, half walking in dishabille with a babe in her arms and dragging a young one by the hand another with no children or who had left them in the care of a neighbour, rushed widely along, heedless of obstructions, not staying to pick her way along the muddy roads, and thinking only

Below ground, four bodies were found at the face, mutilated and difficult to identify but were identified as John Chesterfield and John Jackson of Silver Street, Barnsley and a boy named Hurst who lived in Hoyle Mills. The following men and boys were got out of the pit alive, S. Bates, Henry Willoughby, Henry Brookes, Henry Marshall, John Hardcastle, William Hart, John M’Gugh, William Washbury, Thomas Hurst, Robert Thompson, William Wilson, George Borrowdal, Giles Walmesley, Robert Robinson, Joseph Keither, James Beever and William Narran.

The scene at the pit bottom was described in the Press as ‘being changed from a place of industry to a vast Golgotha.’ The stables were destroyed and burned and eighteen horses and ponies had been killed. The workings were unapproachable due to large falls of coal and afterdamp that was encountered and it was realised that the hundreds who were in the workings must be dead.

The exploring party had been down for about an hour when it was decided to repair the damage to the rope and cage and they came up while this was done. The work took about two hours and then the exploration was resumed. A large quantity of brattice was sent down the pit and an attempt made to repair the broken stoppings and renew the ventilation to the pit. The rescuers worked in relays and as they came up the pit they were besieged by the crowd waiting for some news. The few police that were at the pithead had little control of the crowd who invaded the landings and interfered with the operations. A telegram was sent to Colonel Cobb, the Chief Constable of the West Riding and he soon arrived with a large body of police and the pit top was soon cleared.

The survivors who had recovered at the pit head had no shortage of volunteers to take them home. Brandy was freely available to restore them to consciousness. A man named Tasker had a remarkable escape. He was the furnaceman at the pit and heard a noise like a loud peal of thunder and felt a hurricane which knocked him to the ground, senseless. When he was found he was still unconscious but had a dead cat in his arms.

Mr. Dymond, the proprietor of the colliery and Mr. Brown, a mining engineer were at the pit, supervising operations and by that time it was realised that all the three hundred and fifty men in the pit were dead. Up to mining of that first day, fifty bodies had been recovered and a large number of volunteers from surrounding pits were provided the relays of rescue teams. The scenes at the pit head were harrowing as bodies were brought up and hastily wrapped in blankets on the landing to be removed to the death

house to be identified by their loved ones as they were brought out of the pit and placed there. The coffins were made at the pit. There were many people from the surrounding districts weeping and wailing at the pit head as carts surrounded by grieving relatives, carried the bodies to their homes. One young man who had been identified had a wife who was confined with the birth of their first child and she also lost two of her brothers. The village of Hoyle Mills was desolated and women wept openly in the streets and wandered around the village in shock.

Work was still going on at the pit the following morning and the crowd at the pithead was mainly from surrounding collieries. The mood was different. There was no outward demonstration of grief but a sad resignation. Between 8 and 9 p.m. there was an incident at the pithead which stirred the crowd to feelings of indignation when a party of sixteen men returned to the surface after only a short time down the mine. They had been affected by the bad air and the crowd thought they had left the pit because they were afraid and called the cowards.

These men were replaced by seven others which made the total below, twenty eight. Amongst those who went down were Mr. Smith, the mining engineer from Lundhill Colliery, David Tewert, the underground steward, William Sugden, the deputy steward, Charles Siddon, the under deputy and Thomas Madin and William Stevenson, firemen. The party was accompanied by Mr. Jeffcock, a mining engineer from Sheffield who was 34 years of age. This party worked restoring the ventilation by erecting brattices and temporary stoppings. Jeffcock had remained underground all night and work was sent to him that he should be relieved. He sent a message back that the temperature in the shaft should be watched as he thought the mine was heating up. A warning came from another party of explorers under the command of William Sugden, when, at about 8.30 a.m., when the party were about 750 yards from the pit bottom and the ventilation suddenly became disturbed. All the men rushed for the cage and went to the surface but Sugden stayed as he considered it his duty to do so.

There was a party of men waiting to go down. They had lowered a thermometer down the shaft and thought the ventilation all right. It was at this moment that the pit fired again. The men around the shaft were tumbled back over one another. The No.1 cage was blasted into the headgear. The waiting crowds were stunned as this second explosion was heard over a mile away, Dense clouds of smoke poured from the shaft and large pieces of burnt timber were hurled through the air. The other cage was lowered to the bottom of the shaft a raised a few moments later. It was empty. It was realised that everyone in the pit was dead and that little could be done to recover the bodies.

At 7.40 p.m. there was a third explosion and black smoke bellowed out of the No.2 Pit discharging sparks and flames into the air. The ventilation of the pit was hopelessly deranged and the air was now going down the upcast shaft and coming up the downcast. Smoke and sparks continued to come from the No.2 pit all night and men were appointed to watch for any change in the situation.

According to an account given by Mr. T.W. Embleton an incident occurred in the 14th. December when the signal bell of the No.1 shaft was heard to ring. This prompted men to shout down the shaft and a little bottle of brandy was lowered down. When the rope came up the bottle had gone. It was thought that there was someone alive in the mine and immediately steam was raised to drive a sawmill engine. Mr. Embleton and Mr. J.E. Mammatt were lowered down in a tub. Their descent was perilous as the shaft had been badly damaged. The pumps were blocked and there were huge torrents of water descending. They had great difficulty in keeping their lights burning but when they arrived at the bottom they found Samuel Brown, the sole survivor.

Brown had been in the party which descended at 7 a.m. on Thursday and had gone down the incline where two more bodies had been found and brought to the bottom of the shaft. It was just after this that the air reversed which sent the men running for the pit bottom. Jeffcock and his party had been seen to go further into the workings. Brown with his companions, Hoylands, Barker and Young had gone into the 'lamphole' and rested

there. They were there when the second explosion occurred. He remembered little but the blast killed his companions. He said-

"I remained in the lamp office until I lost my faculties and remained in that position for some time after which I began to recover. I then made my way to the bell wire and received an answer from above. I have to state that the two persons which I felt with my hands were all that I came across during my stay in the pit and I supposed them to be dead."

Nothing more could be done and the colliery was visited by Earl Fitzwilliam who presented the Company with a wagon load of blankets. Major Waterhouse, M.P., also visited the pit. Mr. Charles Morton, Her Majesty's Inspector of Mines arrived at the colliery and a consultation took place with the engineers and owners at the pithead. Mr. Morton was only too well aware of the reception of the crowd at the Edmunds Main Colliery some years earlier when he had urged the colliery to be flooded. The strain on him was very great and his health gave out. He was replaced by Joseph Dickenson, the Inspector for the Manchester District and he made the report into the disaster.

The estimate of the loss of life in the disaster was 352 and there was a meeting of mining engineers at the Kings Head to see what could be done with the colliery. At the meeting it was agreed that the No.1 shaft should be filled to the Melton Field Seam to a point a little below the drift to the pumping shaft. Smoke and choke damp were still coming from the No.1 shaft at intervals and when engineers were examining the No.2 shaft they heard a rumbling noise. Notices saying 'Smoking Strictly Prohibited' and 'No Lights Whatsoever Allowed' were placed around the shafts.

With the death of Charles Warmeley, one who had been brought out of the pit alive, only four of the eighteen that were rescued were still alive and two of them were reported to be dangerously ill. The inquest into the deaths of the men was opened at Hoyle Mill but only evidence of identification was taken and the proceedings adjourned.

From the '*Barnsley Chronicle*' 9th. October, 1869-

"LIST OF BODIES RECOVERED."

Over two years have now elapsed since the Oaks Colliery shaft was reopened after being closed for more than nine months. Twelve months ago we gave a list of the bodies which had been recovered after the reopening of the shaft and we now repeat with the names of the victims of the explosion whose bodies have been recovered since that date. The total number of victims was 334 by the first explosion of the 12th., December 1866 and 26 by the second explosion the following day. Total 360. Seventy five bodies were recovered prior to the shafts being closed, forty five were recovered during the first twelve months after the shaft was reopened and seventy during the past years, making the total 190. This deducted from 360 leaves 17 bodies still in the colliery. It is remarkable that all but two have been identified."

A new shaft was sunk at Stair Foot and an attempt made to get the water put of the pit by means of a pump driven by compressed air. An engine driven by this force was tried some years before to drive a coalcutting machine.

The following is the list that appeared in the '*Barnsley Chronicle*' with the dates of their recovery, 'as far as can be made out.'

Bodies recovered from September to October 1867-

John James, married,
David Tewart, married,
William Sugden, widower,
Alfred Hoyland, married,
John Smith, married,
Parkin Jeffcock, single,
Christopher Siddons, married.

Bodies recovered April to December 1868-

Charles Fletcher, single.
Henry Howard, married.
Robert Ratcliffe Hall, single.
John Graham, single.
Thomas Dickinson, married.
Thomas Wilson, single.
John Bradley, married.
Thomas Hyde, married.
Aaron Siddons, single.
George Hoyland, single.
James Haycroft, married.
Edward Evans, single.
Lot Brownlow, single.
Two boys, not identified, single.
Joshua, Reynor, married.
Elijah Slater, single.
James Massie, single.
Joseph Mort, married.
Benjamin, Brown, married.
Matthew Allen, single.
Joseph Roebuck, widower.
Abel Cartwright, married.
John Snowden, married.
Francis Clarkson, single.
Thomas Clarkson, single.
Richard Clarkson, married.
Alfred Poppleton, single.
John Edson, single.
John Bradley Sigley, married.
John Thomas Clegg, single.
John Ward, married.
Tom Glover, single.
Richard Oakley Nichols, married.
George Evans, married.
John Evans, single.
William Slater, single.
George Hoyle, single.
Benjamin Makin.
Charles Challenger, single.
William Haigh, single.
Walter Hawley, single.
George Hough, single.
John Winter, married
Thomas Schoneld, single.
John Harper, single.
Edward Bradley, single.
John William Shore, single.
Alfred Armitage, married.
George Marshall, married.
Robert Hosking, married.
Samuel Helliwell, single.

Bodies recovered January to August 1869.

William Lawton.

Thomas Pickles, married

Charles Hutchinson, married.
William Slater, single.
William Wilkinson, married.
George Hitchen, single.
Martin Gilbright, single.
Samuel Dunk, married.
Samuel Thorpe Neal, single.
John Brownmead
Joseph Thorpe, single.
George Addey, married.
Thomas Anderson.
Duncombe Winter, married
John James. married.
Philip Bates, married.
John Hinchcliffe, single.
Charles Hinchcliffe, single.
Henry Hinchcliffe, single.
A boy not identified.
George Arnold, married.
George Dennis.
John Halton, single.
William Matrick, single.
Thomas Winter, married.
Joseph Winter, single.
Henry Hall.
John Pickford, single.
William Boothroyd, single.
John Edson, single.
George Long, married.
Matthew Arnold, married.
Edward Kenny, married.
William Dobson, single.
Joseph Watson.
Thomas Bantum.
Joseph Hunt, single.
George Wilkinson, single.
Charles Donkin, single.
Thomas Payman, married.
Edward Siddons, single.
Thomas Dixon, single.
John Cadman, single.
Charles Brooke, married.

AN UPDATED LIST OF 360 MEN and BOYS

ABBOTT William Collier
ADDY George Collier
ALLEN Matthew Dayboy
ANDERSON Thomas Hurrier
ARMITAGE Alfred Dayboy
ARNFIELD John Collier
ARNOLD George Collier
ARNOLD John Hurrier
ARNOLD Matthew Collier

BAHNFORTH Matthew Collier
BAKER Richard From Ingleton Hurrier
BAKER Thomas From Ingleton Collier
BAND Thomas Dayboy
BANTAM Joshua Collier
BARD Joshua Collier
BARKER Andrew Dayboy
BARKER Andrew jnr. From Ingleton Collier
BARKER Andrew snr. From Ingleton Collier
BARKER George (1) Dayboy
BARKER George (2) Dayboy
BARKER James snr From Ingleton Dayman
BARKER William From Ingleton Hurrier
BARKER William Hurrier
BARRACLOUGH Alfred Hurrier
BATES John Collier
BATES John Dayboy
BATES Moses Hurrier
BATES Phillip Collier
BATES William Hurrier
BATTY James Hurrier
BATTY Joshua Collier
BELLAMY Solomon Hurrier
BENNETT James Collier
BENNETT John Hurrier
BENNETT Thomas Hurrier
BENNETT Thomasn Hurrier
BERRY William Hurrier
BIRCHALL George Collier
BIRKINSHAW Arthur Hurrier
BOOTHROYD William Hurrier
BORROWDALE George From Ingleton Dayman
BRADLEY Daniel Collier
BRADLEY Edward Dayboy
BRADLEY John Collier
BRADLEY John Collier
BROOK Henry Dayman
BROOKE Charles Collier
BROOKE John Dayboy
BROWN Alfred Hurrier
BROWN Benjamin Hurrier
BROWN Charles Hurrier
BROWN John Collier
BROWNLOW Lot Hurrier
CADMAN John Dayboy
CARR George Hurrier
CARR John Dayboy
CARTWRIGHT Abel Collier
CARTWRIGHT Edward Collier
CARTWRIGHT John Collier
CASTLE John Collier
CHALLENGER Charles Hurrier
CHESTERFIELD Henry Dayman
CLAPHAM Richard Collier
CLARKE Thomas Hurrier

CLARKSON Frank Hurrier
CLARKSON Richard Collier
CLARY Charles Hurrier
CLAYTON Henry Hurrier
CLAYTON John Dayman
CLEGG John Hurrier
COLLIN John Hurrier
CONLEY John Collier
CONNELLY Charles Collier
CONNOLLY John Hurrier
COOKE Amos Hurrier
COOPER David Hurrier
COOPER Joshua Hurrier
COOPER Thomas Collier
COWARD Andrew Hurrier
COWARD George Collier
DAMMS George Collier
DAWSON William Dayman
DAWSONS George Collier
DAY Peter Collier
DENNIS Benjamin Collier
DENNISS Abraham Collier
DIXON Matthew Hurrier
DIXON Thomas Hurrier
DODGSON William Hurrier
DONKIN Charles Dayboy
DONKIN Thomas Collier
DONKIN Tom Hurrier
DUCKETT William Collier
DUNK Samuel Collier
EDSON George Hurrier
EDSON John Collier
EDSON John Hurrier
EDSON William Hurrier
ELLIS George Hurrier
EVANS Edward Hurrier
EVANS George Collier
EVANS John Collier
EVERETT John Dayman
EXLEY Benjamin Dayboy
EXLEY Charles Hurrier
EXLEY John Hurrier
FAIRCLOUGH Benjamin Hurrier
FARMER John Collier
FAULKS Joshua Collier
FEARN Charles Hurrier
FEARN David Hurrier
FLETCHER Frederick Collier
GILLCHRIST Martin Hurrier
GLADWIN George Collier
GLOVER James Hurrier
GLOVER Thomas Hurrier
GOTT Henry Hurrier
GRAHAM John Dayboy
GRANT Michael Dayboy

HACKIN Robert Hurrier
HAIGH Henry Dayboy
HAIGH William Collier
HALL Henry Hurrier
HALLIWELL John Collier
HALLWORTH David Collier
HALTON John Hurrier
HAMMOND THomas Dayman
HARDCASTLE Thomas Dayman
HARRISON Charles Hurrier
HARRISON Joshua Collier
HASSLE Walter Hurrier
HAWCROFT William Hurrier
HAWLEY Walter Collier
HAYCROFT James Collier
HAYELL George Hurrier
HEALEY Alfred Hurrier
HELLIWELL Samuel Collier
HENRY Thomas Hurrier
HIGHLANDS Thomas Hurrier
HILTON Henry Collier
HINCHCLIFFE Charles Hurrier
HINCHCLIFFE Henry Collier
HITCHIN George Hurrier
HOLDSWORTH Frederick Collier
HOLIDAY Samuel Hurrier
HOLLAND David Hurrier
HOLLIN Joshua Hurrier
HOOBECK Matthew Hurrier
HORBURY THomas Hurrier
HOUGH George Dayboy
HOYLAND Alfred Dayman
HOYLANDS George Hurrier
HUDSON George Collier
HUNT Joshua Hurrier
HUNT Richard Dayman
HURST Robert Collier
HUTCHINSON Thomas Hurrier
HYDOS Thomas Collier
IBBOTSON George Dayman
JACKSON Henry Collier
JACKSON John Dayboy
JONES John Hurrier
JONES Samuel Hurrier
JONES Thomas Collier
JONES William Hurrier
JOWETT Benjamin Dayman
KAY Jabez Dayman
KEIGHLEY Joshua Dayman
KENWORTHY Edward Collier
LANE Austin Dayboy
LANE James Collier
LAWLEY George Collier
LAWLEY John Collier
LEA Joshua Hurrier

LEATHER Joshua Collier
LEATHER Thomas Collier
LEE Joshua Hurrier
LEE Mark Dayman
LEE William Hurrier
LEVER George Dayman
MARSDEN Henry Collier
MARSHALL George Collier
MARSHALL John Hurrier
MASSEY Richard Dayboy
MATTHEWS Charles Hurrier
MATTHEWS William Collier
MATTRICK William Collier
McCARTHY John Hurrier
McDONALD Michael Hurrier
McDONALD Peter Collier
McHUGH John Dayboy
McLINTOCK William Hurrier
MIDDLETON Willam Hurrier
MILLER George Hurrier
MOORE George Hurrier
MOSS Benjamin Hurrier
MOSS John Hurrier
MUSGRAVE Edward Collier
MUSGRAVE George Hurrier
NADIN Ephraim Dayboy
NADIN George Hurrier
NADIN Thomas Dayman
NEWTON John Collier
NOBLE John Hurrier
NORMAN William Dayboy
NUTHALL John Collier
OAKLEY Richard Collier
OSBORNE Charles Dayboy
OSBOURNE Henry Hurrier
PARKER William Hurrier
PASLEY John Hurrier
PAYMAN Thomas Collier
PEARKER Joshua Collier
PICKFORD John Dayboy
PICKLES Thomas Collier
POOLEY John Hurrier
POPPLETON Alfred Dayboy
POPPLETON Henry Dayman
POPPLETON Joshua Collier
POPPLETON Joshua Jnr. Collier
PRIESTLEY William Dayboy
RACE Nathan Hurrier
RAMSDEN Charles Collier
RAMSDEN Henry Hurrier
RANDERSON Charles Collier
RAYNOR James Dayboy
RAYNOR Joshua Dayman
RHODES Charles Hurrier
RHODES Fergus Collier

RHODES George Hurrier
RICHARDSON John Hurrier
RICHARDSON Samuel Dayman
RIDER Jervis Collier
RIMMINGTON Robert From Ingleton Hurrier
ROBINSON Stephen Hurrier
ROBSON John Deputy
ROEBUCK Joshua Collier
ROWNING Michael Hurrier
SCALES Matthew Dayman
SCHOFIELD Thomas Hurrier
SCISSONS Aaron Collier
SEDDONS Christopher Deputy
SEDDONS Edward Dayman
SEDDONS Samuel Hurrier
SEDDONS Thomas Hurrier
SELLARS Ephraim Dayman
SHAW Richard Hurrier
SHIRT George Collier
SHIRT William Hurrier
SHORE John Hurrier
SIMPSON Samuel Fawcett Collier
SLATER Elijah Dayboy
SLATER William Hurrier
SLONE John Collier
SMITH Alfred Hurrier
SMITH Frederick Hurrier
SMITH George Collier
SMITH John Hurrier
SMITH Joshua Hurrier
SNOWDEN John Collier
STONES William Hurrier
SUGDEN William Deputy
SWIFT Matthew Hurrier
SYDER William Hurrier
SYKES George Collier
SYKES William Hurrier
TAYLOR THoms Collier
THAWLEY Charles Dayman
THICKETT Thompson Dayboy
THOMPSON John Dayman
THOMPSON William Hurrier
THORNLEY James Collier
THORNTON Robert Hurrier
THORPE Samuel Hurrier
TIMMINGS Isaac Collier
TUPMAN George Hurrier
WALKER Joshua Dayboy
WALL Daniel Hurrier
WALMESLEY Giles Dayman
WALMSLEY John Dayman
WALTON Thomas Collier
WARD John Collier
WARD Thomas Hurrier
WATSON Joshua Collier

WATSON William Dayboy
WEBB Charles Collier
WHARTON William Hurrier
WHITAKER John Collier
WILKINSON Abraham Hurrier
WILKINSON George Hurrier
WILKINSON William Hurrier
WILLIES John Dayman
WILLOWBY Henry Dayman
WILSON Thomas Dayboy
WILSON William Deputy
WINTER Duncan Collier
WINTER Henry Hurrier
WINTER Joshua Hurrier
WINTER Thomas Collier
WINTER William Hurrier
WINTOR John Collier
WOOD Henry Collier
WOOD Thomas Collier
WRIGHT Thomas Hurrier
WRIGHT William Hurrier
HILL William Dayboy
KEONE John Dayboy
HARDCASTLE John Dayboy
BATES William Dayboy
MATTRICK Matthew Dayboy
STENTON Samuel Dayboy
COLDWELL George Dayboy
BURGON Joshua Dayboy
FLETCHER Charles Dayboy
HAYES John Dayboy
ILLINGWORTH Ezra Dayboy
FLEETWOOD James Dayboy
POPPLETON George Dayboy
HOLBROOKS John Dayboy
BARKER George (3) Dayboy
BENNETT Thomas Dayboy
DIXON William Dayboy
CARR William Dayboy
PAYMAN Frederick Dayboy
JEFFCOCK Parkin Volunteer
SMITH John Of Lundhill Volunteer
TOWART David Underground viewer Volunteer
STEAD Thomas Volunteer
HEADING James Volunteer
HEPINSTALL Robert Volunteer
BANKS Thomas Volunteer
BACKHOUSE George Volunteer
ROBINSON William Volunteer

The inquest into the disaster was conducted by Mr. Thomas Taylor, one of the Coroners for the County of Yorkshire and lasted 13 days. Mr. Morton was the Government Inspector for the district but had been taken ill during the events and the

evidence was presented to the inquiry by Mr. Joseph Dickenson, Inspector for the Manchester District. Mr. Dickenson noted that-

'Mr. Morton's health broke down under the intense excitement and anxiousness consequent upon the calamitous explosions at the colliery.'

When Mr. Dickenson made the report into the disaster, the pit was closed and attempts were going on to put out the fires that were raging below ground. There were 286 bodies down the pit and it was the most serious loss of life in a colliery disaster in Great Britain. It was also very difficult to investigate as it was impossible to enter the workings and draw any conclusions from the evidence.

From the testimony of the witnesses, it was obvious that there had been large accumulations of gas in the goaves and in addition to this were sudden outbursts of gas which the safety lamps, which were used in the mine, had dealt with safely. At the time of the first explosion, work had been proceeding in opening up fresh faces which would have liberated a lot of gas and the explosion took place at the warmest part of the day when the ventilation would have been at its least efficient. One of the ventilation furnaces had been slackened for cleaning at the time and the barometer was falling.

How the gas had become ignited was unknown. All the lamps were locked and in good order but there were gas lamps extending from the bottom of the pit for 150 yards along the Old South Level and for 400 yards down the Engine Plane. Several of the survivors were firing a shot in a place near the shaft and said that they fired the shot and the explosion occurred about two seconds later. The charge was a big one of six pounds. The usual one was two pounds and the shot blew out the bottom of the hole. Wilson, who fired the shot, was found dead in the Engine Plane and he appeared to have gone there to prevent people walking past the place as the shot was fired and a partition blown through. It was thought that the effect of such a shot would be felt throughout the mine and the flame would go a considerable distance and the concussion would disturb the gas in the goaves.

Gas had been found in the goaves by the fireman, Cadman and by Bates and Thompson and there were some naked lights along the South Level. The Special Rules of the Colliery were stringently followed and the Manager, Mr. John Thomas Woodhouse was one of the most competent managers in the country and the ventilation was skilfully laid out. In the North Deep Level, firedamp came from a fault and was piped to the downcast shaft where it was used to light the mine. It was supposed that this could have been a source of ignition but Mr. Dickenson dismissed this theory as the practice was used in some Lancashire mines and there had never been an ignition of gas from these lights.

Joseph Dickenson thought that the basic cause of the disaster was the system by which the Eight Foot Barnsley Coal was worked. The seam was known to be fiery and was worked on the longwall system. At the time of the explosion, the face was a mile long and the working places rose 1 in 12 to the goaves. When this system was used at the Wallsend Colliery, there was an explosion.

Regarding the events after the explosion, Mr. Dickenson commented-

"It is difficult to restrain people from going down the pit when there may be the possibility of saving life, or for rescuing bodies but feelings should not overcome judgement, and the danger of any unnecessary number of person being allowed to go down at one time for this purpose ought not to pass unimproved. The deputy who in this instance saved so many lives, was, it seems, called a coward whilst rushing out whereas, in reality, he was showing good judgement. On similar occasion a few years ago, Mr. Morton, the Inspector of Coal Mines, Mr. Woodhouse and Mr. Brown, colliery viewers, were hooted from the pit bank for preventing persons going down, the soundness of their judgement being proved by a serious explosion which followed in the course of a very short time."

With regard to the second explosion Mr. Dickenson went on to say-

"It would have been much sadder but for the observation of the slight change perceived in the direction of the air by one of the deputies named Matthew Haigh

who attributed it to flue gas and made his escape alarming a great number of persons on the way and so saved the lives of six cage loads of men who rushed in panic from the pit. The number of cage loads being stated as 15 in one cage. The timely warning given by him was therefore ?

The Coroner summed up and the jury retired to consider its verdict which was-

“That Richard Hunt and others were killed by an explosion of firedamp or gas at the Oaks Colliery on the 12th., December 1866 but there is no evidence to show how or where it was ignited. The jury think it unnecessary to make any special recommendations as to the workings of the mine saving that the Government are collecting information no doubt with a view to a better protection of life but they think a strict inspection desirable.”

Commenting on the verdict, Mr. Dickenson wrote-

“It is not intended nor is it desirable that Inspectors should act as viewers or managers of the collieries but to be in the Districts where matters are referred to them that in case of complaint or reason to suspect danger, the pits maybe inspected and the requisite steps being taken to remedy it without an accident occurring and that when an accident had occurred, which appears to require it, investigation to be made, in order to ascertain whether the provisions of the Law have been complied with, and that, if necessary, the penalties for neglect may be proceeded for. It is apparent that when accidents have occurred, investigations press the responsibility for the management upon the parties to whom it attaches, and are the means of causing precautions to be taken which are likely to prevent a recurrence. Mines continually require attention. New roads are daily being made as the coal is worked, requiring renewed propping and frequent changes in ventilation arrangements, and the ventilation power must regularly kept up wear and tear are also constantly going on the ropes, steam boilers, machinery, pit shafts, &c. If the view is taken by one parties, therefore, that inspection should reach further than this, were acted upon, it would tend to relieve the owners and managers of the responsibility which now devolves upon them, and throw it upon the Government, which, unless the Inspectors were made as numerous as the managers and had an equally numerous staff with the power of control over the expenditure, they could not possibly undertake.”

As a postscript to the disaster, years later when Mr. Mammatt was giving evidence to the Royal Commission on Accidents in the mines 1879-81, Sir George Elliott recalled-

“I believe you were at the Oaks when I was there with Mr. Woodhouse. I remember you performed a very daring deed in going down with Mr. Embleton for which I thought you ought to have been awarded the Victoria Cross.”

There were still eighty bodies not accounted for and Mr. Mammatt remarked to the Commission that the men were quite reconciled to it now and that ‘*we never hear anything about it now*’. He was asked how the men overcame the sentimental feeling for those who were still in the mine and he answered-

“We have a different set of men at the colliery now. For a few months there was that feeling but it had quite died out now. We sometimes come across some bones and we have them sent up to the top but nobody claimed them and they were buried. There was only a skull and a piece of leg bone.”