

TALK O' TH' HILL. Newcastle, Staffordshire, 18th. February, 1873.

The colliery was the property of the North Staffordshire Coal and Iron Company and was the scene of an explosion six years before which claimed over eighty lives. The mine worked four separate seams, the Ten Foot, the Two Row and the Seven and Eight Feet Banbury seams. The Eight Foot Banbury was the deepest at 350 yards.. The seams were reached by internal shafts and the Seven Foot Banbury, in which the explosion took place was reached by the Bucksand shaft.

On the evening of the explosion, six men went home early and another six arrived too late to go down so the number of men working in the seam was eighteen. At 1.45 p.m. there was a loud report and a powerful rush of air up the downcast shaft followed by a rush of dust and rubbish. Mr. Hunter, the manager was in his office at the time and he and three workmen went down the shaft in baskets to the Banbury seam but were driven back by strong gas.

Many volunteers had gathered at the pit head and about fifty of them went down the pit to clear the rubbish and help with the rescue operations. In a short time thirty of these had to come to the surface affected by the afterdamp. Three doctors who were interested in mining medicine happened to be in the neighbourhood and Drs, Booth, Greatrex and Stevenson, helped the men when they came to the surface.

Mr. McHutchinson, the chairman of the Company arrived at the colliery just as the first bodies were being brought up. By Wednesday all the dead had been recovered and they were taken to the Swan Tavern where they were washed and laid out for identification.

Those who lost their lives were:-

John Birchenough aged 36 years, married with three children,

James Hackney aged 16 years.

John Stamper aged 27 years.

Benjamin Booth aged 21 years.

Thomas Breeze, married with three children.

David Winkle aged 16 years.

Thomas Booth aged 41 year, married with four children.

John Shannon aged 19 years.

Henry Grocott aged 17 years, married.

Thomas William Harrison aged 14 years.

John Baynham aged 30 years. married with four children.

Francis Birch aged 17 years.

Samuel Kenny aged 16 years.

Thomas Grocott aged 20 years, married with one child.

Robert Walker aged 16 years.

William Lowndes aged 20 years.

William Jones aged 28 years.

Richard Sherwin aged 13 years.

The inquest was opened by Mr. Booth, Coroner and the fireman Edwin Durber said that he had found no gas in his inspection before the disaster.

CWMTILLERY. Abertillery, Monmouthshire. 5th. April, 1873.

The colliery belonged to the South Wales Company Limited and the explosion claimed the lives of six men. It was situated near Abertillery in a village called Cwmtillery which had sprung up round the pit. Mr. Wallace was the manager and about three years before the disaster a new ventilation system was designed by the Inspector and Wallace which included a third ventilation shaft at the colliery. The work had been carried out and was great success increasing the quantity of air in the mine.

There were two districts in the mine, one to the east and one to the west and some old workings had recently been reopened and it was in one of these headings that the explosion occurred. At the time there were only eight men working on the roads in this part of the mine.

At 10 p.m., the night fireman, Joseph Sharpe, made his ordinary inspection and found no gas but told the men to be careful with the doors. The day fireman James Brown, went round at 3.45 a.m. and went into the west workings when he immediately encountered firedamp and realised that an explosion had taken place.

The went to the surface for Mr. Wallace, the manager and they found the walls and roof were damaged and on the ground were the bodies of five men and three others who were just alive but died in a short time. Doors were blown down and one horse killed.

Those who died were-

Thomas Owen aged 26 years,

George Evans aged 17 years,

James Matthews aged 39 years, left a wife and child,

William and John Corbett,

William More, aged 25 years, widower, who left a child and

Henry Phillips aged 24 years.

The inquest into the deaths of the men took place at Abertillery and lasted for six days. all interested parties were represented and Mr. Brough, the Inspector, gave evidence that he had inspected the colliery after the disaster. He thought that the explosion had been caused by sheets being left down. The effect of this would have been like leaving open a ventilation door. He went on to say-

“If when the deceased persons had resumed their labour after partaking of their supper, or whatever meal the refreshment may be called, and had their sleep, they had discovered gas and had put up the sheet and so restored the ventilation to it’s normal and proper state, it is inevitable that the very restoration would have brought the firedamp right on to them, and they at the time being at work with naked lights, nothing could have prevented the explosion. But the more immediate bringing about of this calamity in my opinion was that after their supper and their sleep they walked about with unprotected lights right into the explosive mixture, not remembering that the sheets had been left down.”

The Inspector also considered the possibility of a sudden outburst of gas but rejected this as a possible source of the gas. Mr. Brough concluded the report of the disaster with the following words-

“The only thing that can be charged against the management was a want of discipline in not putting a stop to the reprehensible practice of men sleeping during the shift, every one of them retired at the same time into a stall for that very purpose, where, in all probability, they slept and hour and perhaps a good deal more.”

WYNNSTAY. Ruabon, Flintshire. 24th. April, 1873.

The colliery was the property of the New British Iron Company. An explosion occurred in the workings which dipped at one in three and was worked with locked lamps causing the deaths of seven persons. There were three shafts at the colliery. Nos.1 and 2 were downcast and No.3 was the upcast for all the colliery and had a furnace at the bottom. The disaster occurred in the workings of the No.1 pit in the New Coal Seam which was 308 yards deep and 820 yards from the pit eye in a south west direction.

The colliers were allowed to use gunpowder to get coal after it had been holed and a fireman was appointed to light the shots. His instructions were to examine the places for gas before the shots were fired. Two levels were being driven and colliers in both places were ready to have shots fired. The fireman, Griffith Hughes, went into the lower level and fired a shot which was all right and

witnessed by John Hughes. Shortly afterwards, Hughes heard another shot in the higher level and the explosion followed immediately.

John Hughes, a collier gave his account of the explosion at the inquest and said-

“On the day of the accident I was down about 6 a.m. I worked in a deep place off the low level I heard a shot fired shortly after noon as I thought, in the lower level, which went off all right about 10 minutes after I heard another shot go off in what I believe to be the higher level, closely followed by a great rush of wind and flash of fire which threw me down into my working place as soon as I could I got up and saw sparks in the level on getting to the top of my place I fell and could go no further than the main road where I found Richard Thomas who had been killed I was nearly smothered with dust before getting out.”

Another account came from Thomas Phillips, a fourteen years old horse driver-

“I was in the pit on the day of the explosion and was near to where Richard Thomas was killed about a minute before it happened I had spoken to Thomas, who was taking a tub to be filled when he met the blast, which threw over the tub over to the other side of him and did not see him alive after that. I was sitting down at the time and was burnt on my hands and face. I saw flames coming along the level close to my head and then I was blown over by a great rush of wind.”

The men who died were-

Griffith Hughes aged 35 years, fireman,
Joshua Davis aged 34 years, collier,
George Edwards aged 33 years, collier,
Richard Thomas aged 22 years, collier,
Edward Williams aged 27 years, collier,
John Jones aged 16 years, filler and
Peter Darlington aged 18 years, roadman.

The inquest was held at Rhos-y-Medre before the Denbighshire Coroner, Mr. B.H. Thelwall. Ralph Darlington was the first to be examined. He was the manager of the colliery and knew all the dead personally. He had not been down the pit on the fatal day but he had examined the pit the day before but not the place where the explosion took place. He said that the pit was too big to be examined by one man and there were three certificated managers. The fireman had seen the place that morning and his report stated-

“I have duly examined the above district and find all the working places free from gas and dirt and in good order.”

Ralph Darlington believed that the shot was over charged and was badly placed. It was the duty of George Edwards to bore the hole which the witness thought should have been twelve inches deeper and the shot blew out igniting gas that had accumulated. There was no rule that the firemen should inspect the holes before charging but he thought that if the hole had been drilled properly, the accident would not have happened.

The men nearest the shot were 45 yards away from the face and other 180 yards away. He thought that the second shot went off about two minutes after the first and it was this one that caused the disaster.

Joseph Darlington was the manager of the No.2 pit in which the explosion took place and he thought the men had been burnt from the effects of blown out shots. He thought they were not deep enough and that they were not correctly rammed. Two shots had been lighted together against orders, and the lower side one going off first would raise the dust, and the second shot blowing out would set fire to it and in his opinion, the flame would continue to burn and he thought this is what burnt the men. He was about 600 yards from the seat of the explosion and felt the shock and the rush of wind.

David Roberts, a collier was one of the Workmen's Committee for inspecting the mine which was authorised by the new Mines Regulation Act. He had seen the place where the men were burnt but he had never seen gas in the place.

Mr. Thomas Bell, the Assistant Inspector as Mr. Higson was ill. He gave his evidence and an account of the shot holes. He continued-

“I am of the opinion that one of two things must have occurred to cause the explosion and to do the damage to the mine which the shot itself could not do first, a shot was fired on the lower level about 10 minutes before the explosion, and any gas that might be liberated at that point would be carried by the current of air to the upper level, where it would just have about time to reach. When the first shot went off, when it would probably be augmented by gas coming from the slip or break in the coal, and there might be sufficient to foul a portion of the place, and would be ignited by the second shot second, the effect of the second shot being blown out with sufficient force would be to create a partial vacuum in the place, which would immediately be filled with gas from the cavities in the coal and would at once become mixed with sufficient of the atmospheric air to make it explosive, and would be ignited by the burning embers of the shot.

The suggestion of Mr. Darlington to have all holes examined by a competent person before the powder is put in is a very good one, and will lead to the prevention of a great number of accidents which are daily taking place in this district, and I should be glad to see it generally adopted by colliery managers.”

The Coroner addressed the jury and they retired. After a few minutes deliberation the foreman, Mr. Joshua Roberts, delivered the following verdict-

“That from the evidence before us, the accident occurred from an explosion of powder arising from the drill holes not being sufficiently bored, and the ramming being improperly secured, and we attach to our verdict a recommendation to the company to carry out the suggestion that has been made, as to having the holes examined before the powder is put in.”

BRYN HALL. Ashton-in-Makerfield, Lancashire. 2nd. June. 1873.

The colliery was the property of Messrs William. and J.B. Crippin and was on Sir Robert Gerard's Estate, Ashton-in-Makerfield, four miles from Wigan. The mine was 178 yards below the surface and there were two shafts at the colliery. The downcast was eleven feet three inches in diameter and the upcast twelve feet in diameter. The mine was ventilated by a furnace which was fed with fresh air direct from the downcast shaft. The colliery was worked on the pillar and stall which was generally adopted in the Wigan district. The coal was very hard and powder had to be used in large quantities and a system had been introduced of blowing the coal on the top side without any side cutting. As many as three shots were required in each place which was ten feet wide.

There had been an explosion at the colliery in the Wigan Nine Foot Seam in August 1870 when the seam was not opened out when twenty lives were lost. The workings were now more extensive and 250 men were employed in the day time at the colliery. The Inspector had directed that shots should be fired at night and this practice reduced the possible number of victims of the explosion. Peter Higson jnr., a mining engineer of Manchester, was the viewer of the colliery and Frederick Crippin was the manager.

A very loud explosion occurred at 12.20 a.m. which sounded like a peal of thunder and alarmed the residents. They, along with Mr. Crippin rushed to the pit and found that a terrific blast had come up the downcast shaft. Just as people were arriving at the colliery a second blast came from the upcast shaft. The devastation on the surface was almost total with both headgears at the pits ruined. Guide rods, bell wire, fragments of the cage and tubs were on the surface shattered by the force of the explosion and making a dangerous situation for all who were at the surface.

As the dust cleared thoughts were turned to the seven shotlighters who were below, the furnaceman in the Wigan Nine Feet Mine and pump boy who was in charge of the engine in the Wigan Four Feet Seam. A descent was attempted by rope and pulley but was abandoned when a hoppet was found. At 4 a.m. Mr. Crippin, the underlooker and the fireman of the Four Feet mine descended the pit. They found the lad in charge of the engine slightly burnt in the upper seam and he was sent to the surface. Beyond this, the passage down the shaft became more difficult through

the wreckage which was in the shaft and it was not until 7 a.m. that the bottom of the shaft was reached and the nine Feet Seam was entered.

The furnace man was found dead but there was no trace of the shotlighters and work to restore the ventilation was stated as soon as possible. There were indications that the explosion had occurred on the north side by the rescuers could get only 400 yards from the pit eye as the choke damp was very strong and there was a question as to whether the pit would fire again. With the lessons learned from the last explosion the advice of the mining engineers and owners who had gone to the colliery was sought. Mr. George Gilroy of the Ince Hall Collieries was there in the morning and in the afternoon Mr. Bell the recently appointed Inspector arrived. Mr. John and Peter Higson jnr. and Mr. Pickard, the Miners' Agent along with Mr. Mercer of the Park Lane Collieries, Mr. John and William Smethurst of the Bryn Collieries, Mr. Cross of Cross Tetley and Company, Mr. John Pearson of Pearson and Knowles. Mr. Charles G. Jackson of the Wigan Iron and Coal Company, Mr. Chadwick of the Haydock Collieries and Mr. Latham of the Moss Hall Collieries. Shortly before noon it was decided by these men that another descent should be made and Mr. Crippin. John Higson and others were lowered in the hoppet. They were down about three quarters of an hour and when they returned they reported that there were strong indications of fire in the workings.

A second party lead by Sixsmith, the underlooker, later explored a part of the north workings and found some wood and brattice burning. This was quickly extinguished. Another small fire was dealt with by another party. Mr. John Higson and a party of volunteers was hard at work below while many at the pithead were discussing whether the thin blue cloud of smoke which was coming out of the upcast shaft showed that there were more fires below.

During the evening the body of the furnaceman was brought to the surface. He had been married for only four months. The rescuers found a lad, John Junn of Scholes, Wigan, alive in the Four Feet Mine and brought him to the surface.

During the afternoon there was an incident at the pit bank which caused much amusement to the crowd who were silently waiting for news. The head fireman Arkwright, who had made several descents of the mine, was about to enter the hoppet when his wife arrived and strongly objected to him making another descent and again risking his life. *'The Colliery Guardian'* reported-

“As her remonstrances were of no avail, she seized her husband - by no means a light - built man - and literally carried him away.”

During the night Mr. Bell, the assistant inspector and Peter Higson jnr. entered the south side of the workings where they found a smouldering fire which was probably the cause of the smoke coming up the upcast shaft. A fire extinguisher had been got from Pearson and Knowles Colliery and the fire was soon dealt with. A large party of workmen worked through the night and three of the bodies were recovered.

Two of these men had apparently been preparing a shot and had tried to make their way to the pit eye after the explosion. They had left their tools at the spot where they had been working but had met their deaths before they had covered fifty yards. The third body was headless and shockingly mutilated. It was thought that gunpowder had added to the force of the explosion. The shotlighters had to take a large quantity down and the two who were first found had 20 pound cans of powder each. The cans had been shattered and their contents burned.

The force of the explosion was devastating and reliable witnesses spoke of the roar of the first blast lasting for almost three minutes and added that the flame of the second explosion roared far above the cloud of smoke. Wood and iron from the shafts was found in fields 100 to 150 yards away and the cage which was standing at the top of the downcast shaft was splintered in the headgear and the cage which was at the mouth of the Four Feet was twisted and warped and sent to the mouth of the shaft.

Those who died were-

Isaac John Jones aged 26 years of Bryn, furnaceman,
John Gorton aged 35 years of Stubshaw Cross, head shotlighter,
James Holden aged 32 years of West Leigh, assistant shotlighter,

William Hodson aged 38 years of Stubshaw Cross,
William Collier aged 28 years of Crippin Buildings, and
Peter Hankey aged 40 years of Bryn, all shotlighters.

In the Inspectors Report James Holden is named as 'Oldham' and Peter Hankey as 'Hartley.' The names in the list are taken from the local papers of the time.

Mr. C.E. Driffield, the District Coroner opened the inquest into the disaster at the Park Hotel, Bryn. The underlooker, John Sixsmith, was the first to give evidence and he gave an account of the devastation that was found below ground. He knew that the mine gave off gas but had never seen the mine full of gas. He stated that John Gorton, the head shot lighter, was an experienced man of good character. He thought the explosion had taken place in John Hill's place on the north side and the gas there had been ignited by a shot. The bodies of Holden and Hodson were found in a place where they would shelter when a shot was being fired.

Henry Hodson, Joseph Arkwright and Henry Waterworth all testified to the competency of Gorton. John Heaton, a bratticeman, was working in the mine until 3 p.m. on the afternoon of the explosion and he did not see any gas. William Hermon, the furnace tender said he was on the day shift at the time of the accident and Isaac John Johns, who was killed, was sober and all right when they parted. he thought the furnace perfectly safe and said it was fired very hard when shots were being fired.

Ralph Miller, fireman in the Four Feet Mine, was down the pit after the disaster and said it appeared to him that the men had fired a shot and were going to the next one when the explosion occurred.

Joseph Dickinson of Pendleton, Inspector of Mines, gave evidence to the court. He thought there had been two explosions, one which started at the far end of the north level, through the workings and back towards the pit and one on the south side that went towards the pit. He stated that if the disaster had happened during the day when men were in the mine, there would have been no chance for anyone in the south workings. He went on to say-

"We also saw three or four 25lb. powder cans, two of which, I think, had a considerable quantity of powder in. All were empty, some having exploded and others only been battered. Having 25lb. cans is contrary to the Act of Parliament. One of the regulations is that powder is not to be taken into the mine except in a case or canister not containing more than 4lbs. There is not to be more than one of these in use at one time by one man. A workman is not prohibited having two or three canisters, but he must not have more than one in use at one time. Furthermore, powder should not be taken into the pit, or be in the possession of any person in the mine except in cartridges."

The practice at the Bryn Hall Colliery, was to make the cartridges at the place where they were needed and the powder was not taken into the mine in cartridges.

Mr. Dickenson then turned to the gas in the mine. There had been many working places opened out and they were dependent on ventilation by brattice. The system used at the colliery was the 'North of England System' which was appropriate for mines that did not give off a lot of gas but, in Dickinson's opinion, was not suitable for the fiery mines of Lancashire.

There was no evidence that the gas had fired at any of the men's lamps but there was evidence that more than one shot had been fired in John Hill's place. It was rule that two shots should not be fired together in a bratticed place. Sixsmith was recalled and closely questioned on several points. firstly, the number of places that were opened out at the colliery, the recording of the presence of gas in the report books of the colliery and the procedure at the colliery for the use of gunpowder.

Frederick Crippin, the manger of the colliery and the son of the proprietor said he did not think that the explosion were the effect of any defect in the colliery but were the result of an oversight or neglect on the part of the men. The firing of two shots and the fact that the place had not been examined for gas before they were fired were breaches of the regulations. He did not agree with Mr. Dickinson that too many working places had been opened out.

George C. Greenwell, mining engineer to Lord Vernon's Collieries in Cheshire was invited to inspect the colliery after the disaster by Messrs. Crippin. He said that he considered that coal ought

to be cut and not blasted. Mr. William Pickard, the Miners' Agent asked if colliers could make a wage by doing this and he replied that the men would do anything for which they were paid. He had seen coal as hard as that at the Bryn Hall Colliery worked without powder.

Mr. Clarke, mining engineer to Sir Robert Gerard of Ashton had inspected the colliery. He also thought that coal should be cut and not blasted and he cited previous disasters that had taken place in Lancashire through blasting coal. He mentioned seven or eight including, Moss Pits, Haydock, High Brooks and Low Hall. He suggested that the mode of working the coal could be improved he suggested-

"I would substitute it in this instance either by the 'long wall' system or by driving a system of levels and cutting them about every hundred yards in square blocks. There would be double levels and I think this system will effectively drain off gas."

In reply to a question by Mr. Pickard he said-

"Lancashire miners would prefer less hard coal, and that there would be a difficulty to get the men to cut the seam, but, as the old saying put it, '*money softens coal*'."

The jury, after deliberating for three quarters of an hour returned the following written verdict and recommendations-

"The jury all agree as to the first explosion being in John Hill's place from the gas ignited by a shot but from some cause unknown - probably from the door on the No.2 level being blown open, and taking the air off the places on the lower side of John Hill's place. The second explosion, we think, took place at some fire left from the first explosion. The jury also think that the two shotlighters on the north side have not done their duty. They agree with Mr. Clarke in his mode of working the coal in the future, if the owners can possibly get it done. The jury also recommend that the air should be split into more parts, so that each district may have fresh air and to do away with or lessen the number of doors in the pit, as there is great risk if the doors being neglected. We also think that two shotlighters should not have more than twelve places to attend to, and that there should be a man in charge of each district, whose sole duty it should be to examine the places before the shots are fired. In the road from the engine to the furnace there ought to be two doors in the place of a brattice cloth. We also think that the returns ought to be taken to a dumb drift, to come into the upcast pit above the furnace drift."

MENSES. Barebones Pit. Wigan, Lancashire 21st. November, 1873.

The colliery, known locally as the Barebones Pit, was the property of Messrs. W. and J. Turner and had worked for a large number of years and had a large area of goaf. There were two shafts, an upcast and a down cast. The upcast went to the Yard Seam at 150 yards and the latter went to the Smith Coal Seam seventy yards below. At the time of the explosion there were about 74 men in the Yard seam and about the same number in the Smith seam. The seam was not noted as a fiery one and was worked with candles. Joseph Moss was the manager and had been at the pit for just over a year. Joseph Orrell was the underlooker. About four months before he had had a complaint about gas from Ralph Goulding in a place about 130 yards further up from Yates's

The pit fired and except for some smoke at the surface there was little evidence of what had happened but news spread quickly and a constant stream of anxious friends and relatives went to the colliery. At the time, Joseph Moss, the manager, was in the office near the pit eye when he heard it. Fortunately the shafts and winding apparatus were not damaged and Joseph Moss, who was down the pit at the time, made an assessment of the damage. Joseph Barton, underviewer of a nearby pit owned by Messrs. Lamb and Moore was quickly on the scene and exploring parties were organised one to go to the north workings and one to go to the south under the direction of Moss and Barton.

The parties some found colliers in the workings who were hurrying to the pit eye to escape and many of them were badly burned. They were sent to the surface where three surgeons, Messrs. Fisher, Unwin and Stewart were waiting to treat them. Cabs were sent for and the men were sent to their homes. In the pit the explorers found little afterdamp which indicated that little gas had exploded. Other collieries gave their support by W. Kellett and W.R. Ellis, mining surveyors, Joseph Thompson manager of the Norley Collieries, John Darbyshire of Barley Brook, Robert Jones

of Ince Hall, Jabez Thorpe of Worsley Menses and J. Robinson for Rylands and Sons. There was little damage to the workings and tubs were not damaged. Colliers in other parts of the mine were unaware of the disaster.

The parties went along the east road from the pit eye for about 200 yards to an opening called the Park Lane shunt and here it looked as the explosion had ripped through the workings like down the barrel of a gun. Almost 70 yards from the level the bodies of two boys and a man were found badly burnt. Further on there were strong traces of fire and a place where a collier named Yates was working with his drawer there was evidence that a shot had been fired which was thought to have fired the gas and be the cause of the disaster. The bodies of two boys were found in a narrow brow to the north and they were not as burned as the others.

The caged brought burnt and half suffocated survivors to the surface at the down cast shaft. To the men in the Smith Seam the only indication that anything was wrong was an interruption of the ventilation. The relatives at the surface greeted their loved ones and there was a wail from the women who found that their husbands, sons and fathers were badly burnt. One youngster who was scorched beyond recognition behaved like a Spartan and encouraged his brother, who was sitting at the pit bank, to be firm and not give way to emotion. The whole of the workings had been examined and all the bodies recovered by three o'clock. The bodies were placed in a workshop. For a long time two of the five were not identified but by dusk all had been claimed and the crowd began to disperse.

The men who died were-

George Lole aged 20 years, collier,
Peter Lawrence aged 14 years, driver,
Matthew Myers aged 14 years, driver,
James Fairclough aged 13 years, driver,
William Millit aged 13 years, drawer,
James Hodson aged 31 years, collier and
George Yates aged 32 years, collier.

It was reported that another twenty others were injured to some extent.

The inquest to identify the bodies was opened by the Wigan Borough Coroner, Mr. Darlington. George Lole was a Welshman from Blaenleecha in Glamorganshire and had been employed by the firm for two or three days. He had no friends or relatives in the district and his identity was discovered from a dog licence which he had in his pocket. No one was at the inquest to represent the owners as they were all working down the pit and the proceedings were adjourned for two weeks.

When it resumed, all interested parties were represented and evidence was taken from the witnesses. The first was Joseph Moss, the manager. As far as he could say the explosion originated in Yates and Hodson's place. These two men were taking down a pillar which Moss did not know why it had been left and he found it when he first went into the mine. There was a goaf from Barton's old colliery and along goaf on Turner's side. There was no barrier between Barton's and Turner's pits. During the time they were working the goaf made blackdamp but only once was firedamp found.

Joseph Orrell the underlooker gave evidence that he had been at the colliery for only a matter of days before the explosion. On the day of the disaster, Yates and Hodson sent for him and asked for some brattice as some gas had come into their place during the morning. While the men were having their breakfast, Orrell inspected the place and found gas at the roof but it went when the brattice was put up.

Ralph Goulding was called and he said he was down the pit at the time of the explosion. He heard nothing but felt a 'sucking' but it did not affect his lamp. He and his mates ran out with wet jackets wrapped round their heads. On his way to the shaft, Goulding encountered afterdamp. He shouted Yates and Hodson to follow him but they did not. John O'Neil and William Broxon, both

colliers, said that the ventilation in the mine was good and that there had never been any apprehensions of an explosion among the colliers. Robert Bolton had been the fireman at the pit for five or six years and on the morning of the explosion he had visited Yates's place and not found any gas. He told the court that every colliery was expected to take a lamp with him and to examine the place for gas before he went in with a naked light.

Patrick O'Brien of the Wigan Borough Police visited Hodson before he died and said that he did not know how the explosion occurred but he was using a candle at the time. Further evidence was taken from William Kellett and mining engineer and the Mines Inspector, Mr. Thomas Bell and the Coroner proceeded to sum up and during the course of his remarks he said-

"There is one important matter which I wish to impress on colliery managers. Latterly the ventilation of all out mines has been very good indeed I know of no collieries where the ventilation was not excellent but I think that very improvement had been the cause of a great many accidents - that too much reliance has been placed on the ventilation. That ventilation in itself is a cause of danger and requires more care than where the ventilation is worse. I believe that many of the accidents that have occurred lately have arisen from relying on the ventilation instead of that care and forethought that ought to exist in every colliery where men are liable at any moment to outbreaks of gas."

The jury deliberated for a few minutes and found a verdict of '*Accidental Death*' in each case and added that in their opinion Hodson caused the accident by disobeying the underlooker and used a candle instead of a lamp. They added that they thought that in all cases where lamps were used in mines they should be locked.

HAFOD-Y-BWCH. Ruabon, Flintshire. 11th. December, 1873.

The colliery was the property of the Ruabon Coal Company Limited. An explosion resulted in the deaths of five men and another was seriously injured. Mr. Peter Higson, the Inspector for the area was ill at the time and asked Joseph Dickinson to examine the mine and attend the inquest. The colliery had two shafts, a downcast and an upcast sunk to 610 yards. The Main Coal in which the disaster took place was 502 yards from the surface and was ventilated by a furnace at the bottom on the upcast shaft. The colliery was worked solely with locked safety lamps and only the man in charge below ground carried a lamp key.

David Williams was the man in charge of the work at night and gas had accumulated about 650 yards from the pit eye. He was ordered to fix a door to divert the air current and so remove the gas. He and two others went to fix the door and three other workmen were sent to repair some timbering a short distance from them. They were the only people in the pit at the time.

When the door had been built Williams, unscrewed the top off his lamp to see that the door was good fit and that no air was escaping. As soon as he placed the lamp near the door the explosion took place and Thomas Prichard was killed on the spot and five others were burnt. Four of them died the following day from their burns.

The men who died were-

Timothy Prichard aged 34 years, dataller,
David Williams, aged 37 years, master dataller,
Thomas Davis aged 26 years, collier,
William Wynne aged 25 years, collier and
Anthony Boyer aged 18 years, filler.

The inquest was held by Mr. Thelwall, the coroner. Joseph Dickinson, the Inspector from Manchester was there and Mr. Jones a solicitor of Wrexham represented the Amalgamated Association of Miners. Mr. Webster, the Agent of the colliery, was also present.

Evidence was taken from John Johnson the certificated manager of the colliery who had been down the colliery on the 29th. November when there had been a complaint about gas from Joseph Dodd. The men had been withdrawn from that part of the workings but he did not see any reason to

withdraw men who were timbering. There were about 35 men employed in the Main Seam to keep the mine in good order. There was problem of the roof weighting and the timbers had been crushed and replaced several times but he had not seen any gas when this happened.

Williams had been a fireman for eleven years and was a careful and attentive man who was liked by the colliers. The damage caused by the explosion had been slight and he thought that there was not much gas that had fired.

Samuel Atherton was a colliery who went down in the morning with Williams who asked him to stop in the evening to put up a door. He was there when the incident happened and told the court that he was afraid that gas may fire. He told Williams who said, 'Oh, we'll shift it in a minute.'. Atherton observed that, " Williams was wrong to take the top off the lamp.' On questioning by Mr. Dickinson, Atherton said he had seen a man named Wynne come to Williams to have his lamp lit and Williams had done so. There was not a lamp station in the mine. Joseph Dodd testified that he had seen gas in the mine.

The Coroner asked Mr. Dickinson if Mr. Jones had broken the 6th. General Rule and Dickinson answered-

"Mr. Johnson stated that this was not a part of the mine which was reported dangerous, but was aired with a sub-split of air and I do not think that if you laid an information upon that point you would get a conviction."

The coroner summed up and after half an hour's deliberation the jury returned the following verdict-

"We say, that the explosion was caused by David Williams, since deceased, having improperly opened his lamp, and that the said David William was guilty of gross and culpable negligence, but that such negligence did not amount to criminal negligence."

ASTLEY DEEP PIT. Dukinfield, Cheshire. 14th. April. 1874.

The proprietor of the colliery was Mr. Benjamin Ashton with Mr. James Hilton as the manager. The downcast shaft was 686 yards deep and the workings extended about a mile and a third to the south of the shaft and about 1,300 yards to the north. Mr. Hilton had been manager at the pit from 1st. October 1871 and had succeeded Mr. Walshaw. He had served his apprenticeship under Mr. Hewlett in the Ince Hall Collieries, Wigan and later in the Earl of Balcarres mines and those of the Wigan Coal and Iron Company, Limited. After his apprenticeship expired he had stayed with Mr. Hewlett a further five years as his paid assistant and in 1870 was the only mining student in the country to receive a mining medal. He had two years experience when he took up his post, and went to work at the Astley Pit for more money. He had called a meeting of the underlookers soon after he was appointed and asked them to give him an account of the mine. At that meeting none of them told him about the Half Moon Tunnel. On his own inspections he found the ventilation of the mine deficient and took steps to remedy this.

On the day of the disaster the night shift numbering 150 to 170 men and boys went down the pit and there were already datallers working there. At 7.30 p.m. the explosion occurred. Forty nine lost their lives in the initial explosion and one man, Charles Jones, lost his life in the following rescue attempts.

At the time of the disaster, four men were repairing the roof of the Half Moon Tunnel which was built in 1859 and by about 1869 required some repairs when crevices had been discovered. When this was being repaired a fire broke out which raged for several weeks and burnt the roof of the Tunnel, extended into the Little Mine which was above and into the Smithy Mine. When the fire was brought under control it was thought necessary to drive a mouthing from the downcast shaft to the Smithy Mine. this was done and the cavity that had been made by the fire was found. A timbered roof was constructed and the cavity filled with earth. The mouthing was left open but there were witnesses at the inquiry who stated that it was filled in later, in Mr. Walshaw's time as manager of the colliery. At the time of the accident, Mr. Hilton was the manager and he knew nothing of these events until there was a fall of earth from the cavity in 1872.

George Harrison, of Astley Street, Dukinfield, was the hooker-on at the colliery and on the day of the explosion descended the pit at 4 a.m. He went into the Half Moon Tunnel to help four men, John Carr, John Swindles, Hartshorn and Timothy O'Neil in propping the caps and couplings from the roof which was in a dangerous state. He called to Swindles to bring a prop for a particularly dangerous part and while he was waiting here was a heavy fall of earth followed by an explosion. Harrison was blown six or eight yards towards the shaft, picked himself up and began to walk to the shaft. On the way he found Henry Fielding, a youth, lying unconscious in the roadway who he carried with him. Fielding recovered consciousness and Harrison returned for Joseph Fletcher aged 13 years, who was lying about a dozen yards from the shaft, crying for help. He rang for the cage to come down and Harrison, Fletcher and Fielding went up to report what had happened.

Harrison returned down the pit with the two underlookers, David Holmes and Abraham Else and others. Holmes and his companions went round the dumb drift to explore the workings and Harrison rang the bell to get the men out of the 1,600 yards level and a number of men came out and went to the surface. Harrison remained down the pit until 5 a.m. the following morning and by that time no bodies had been recovered.

David Holmes, an underlooker at the pit found the tunnel blocked with earth and tried to get to the furnace but it was too hot. He went with other round the dumb drift and got into the engine plane on the other side of the a fall and found the doors to the boiler house in the engine brow were on fire. The fire was immediately put out with water from the boiler. After this Hartshorn was found lying dead near the top of the engine brow with O'Neill lying about a yard from him and Carr about seven or eight yards further on. Carr and O'Neill were alive when they were found and as they were being attended to, some men came down the engine brow and reported that the first air crossing down the brow had been blown down. This was replaced within half an hour and Holmes and several others went to the No.2 hooking place where they found the bodies of two men, John Downes and Nelson Harrison and two boys, Edward Oliver and John Jackson.

This party the went along the No.2 tunnel where they found a fall of earth from the roof. Joseph Gee was the first to get over this fall and on the other side he found seven men and three boys all alive but a boy named Hyde was found nearby, dead. The search was continued down the brow and in the dip tunnel they found two men, James Bradshaw and Edward Davies. they then went to the No.3 hooking place and found nine or ten bodies. The party then went in the direction of the shaft. Holmes remained down the pit until 8 a.m. the following day supervising the recovery of the bodies.

The Inspectors Report names 53 who are listed below but says that 49 men lost their lives in the explosion and one rescue worker in the rescue attempts but goes on to say that four died in Lancashire and were the subject of another inquest. This will give a total of 54 killed in the explosion but there is one name missing from this list.

Those who lost their lives were-
54 Killed

LINDLEY George 10
OLIVER Edwin 12 Of Pickford Lane, Dukinfield
DUGDALE Robert 15 Of Birch Lane
HITCHEN John 16 Of Pickford Lane
HARRISON Nelson 51 Of Pleasant Street
HARTSHORN William 20 Of Astley Street, Dukinfield.
DAVIS Edwin a young man of Portland Street, Ashton
WARDEL Samuel 30 Of Furness Street, Dukinfield
LINDLEY George 17 Of Astley Street, Woodends, Dukinfield
CONNLEY Michael .28 Of Whittaker's Court, Zetland Street, Dukinfield.
ROBERTS John 44 Of Peel Court, Dukinfield.
FLETCHER Richard 26 Of Astley Street, Dukinfield
GARSIDE or GARTSIDE John 19 Astley Street, Dukinfield
BRADSHAW James 40 Of Birch Lane, Dukinfield.

HALLAM James 37 Of Gaskell Street, Dukinfield
STATHAM John 36 Of Park Street, Dukinfield
GARSIDE or GARTSIDE Josiah. Father of John,. Of Astley Street, Dukinfield
KEAN or KINE Thomas John 20 Of Wharf Street, Dukinfield
HIBBERT Walter 21 Of Astley Street, Dukinfield
BICKERDYKE Alfred Of Newton Wood, Dukinfield
WILLIAMS Benjamin 29 Of Crescent Road, Dukinfield.
KNOTT William Henry 15 Of Hadfield's Court, Old Street, Dukinfield
MERRICK James 35 Of Highfield Street, Dukinfield
KEAN or KINE 45. Father of Thomas John of Wharf Street, Dukinfield
REYNOLDS James 24 Of Crescent Road, Dukinfield
TAYLOR Law 30 Of Wharf Street, Dukinfield
LAWTON William A 15 Of Gaskell Street, Dukinfield
LEYLAND John 52. Of Flowery Field, Hyde
STOCKLEDGE or SHOCKLEDGE John 24 Of Oxford Road, Dukinfield
BICKERDYKE Joseph 25 Of Newton Street, Dukinfield
DAVIS Samuel J 20 Of Warf Street, Dukinfield
CHADWICK William A boy Of Wood Street, Ashton
CARTER James Married of George Street, Dukinfield
MORGAN John Of St Mark Street, Dukinfield
WALKER Robert 46 Of Leach Street, Dukinfield
DOWNS or DOWNPATRICK John 22 Of Taylor Street, Dukinfield
WRIGHT George 40 Of Church Street, Dukinfield
THOMAS Robert 25 Warf Street, Dukinfield
BEARD Henry 36 Of Leach Street, Dukinfield
WELSBY James 28 Of Highfield Street, Dukinfield
BROWN Thomas 45 Of Zetland Street, Dukinfield
CARR John 46 Of Meadowbank, Dukinfield. Died in infirmary.
SWINDELLS John 45 Died in infirmary
HYDE Ham
HIGGINBOTTOM Matthew
JACKSON John
DUGDALE Robert
CARTWRIGHT Aaron
HITCHEN John
HARRISON Nelson
BRICE Alfred
HADFIELD Thomas
HUDSON J.D.
JONES Charles
WATKINSON Henry
BAYLEY John
O'NEIL Timothy

Those injured:-

BUTTERWORTH James (injured) Of Hill Street, Dukinfield
BOWKER Albert (injured) 16 Of Astley Street, Newton Wood
NORMANTON Joseph 9injured) 15 Of Oxford Road
DEAN George (injured) 16 Of Park Street, Dukinfield
WALKER John (injured) Of Leach Street, Dukinfield
KELLETT William (injured) Of Astley Street, Dukinfield
HITCHEN Thomas (injured) Of Astley Street, Dukinfield
LEE Matthew (injured) Of Leach Street, Dukinfield

WOOD John Thomas (injured) Of Parkside
HULME Allen (injured) Of Oxford Road, Dukinfield
HULME Charles (injured) Of Oxford Road, Dukinfield
HULME Charles (injured) Of Astley Street, Dukinfield
CLAYTON Squire (injured) Of Kay Street, Dukinfield

The inquiry into the disaster was held at the Astley Arms, Dukinfield by Mr. F.W. Johnson one of the coroners for Cheshire when Mr. Wynne and Mr. Bell, H.M. Inspectors attended. Mr. Horatio Lloyd, Recorder of Chester appeared as Council for the Crown and all interested parties were represented.

From the evidence, it appeared that the mouthing to the Smithy Mine had been filled in and the accident occurred because this was the only means of ventilation for the part of the mine where the explosion took place. In his summing up, the Coroner went on to say that-

“All persons in authority in the pit, and had any knowledge of the bricking up of the mouthing, committed a fatal mistake. It might not have been intentional but it was a grave mistake of judgement, for, to quote the words of Mr. Higson, one of the scientific witnesses, *‘it was almost insane act to do so’*. It was said to have been done in the time of Mr. Walshaw, and he asked the jury to look at the case as it bore on Mr. Walshaw, David Holmes his underlooker, Abraham Else, also and underlooker, Mr. Hilton the present manager and Mr. Benjamin Ashton, the proprietor of the mine.”

The evidence of Holmes, Dunevan and Charnock directly implicated Mr. Walshaw with the bricking up of the mouthing and other witnesses said that it was bricked up during the period of his management. He was the managing director of several large collieries near Rochdale and to judge from his appearance he was not a man to deceive them, he said most distinctly that he knew nothing, and that he never gave any instructions with respect to it and his evidence was borne out by Worthington, the underlooker, and another witness, Ray. The coroner asked the jury to test the credibility of Holmes who had contradicted himself several times on points of evidence. Holmes was a practical man and had allowed the mouthing to be bricked up without telling anyone. Mr. Hilton, the present manager of the mine, was not told by Holmes of the cavity and the first he knew of it was when there was a fall of earth in 1872.

The jury retired to consider their verdict and returned. Mr. A. Aspland, the foreman read the following verdict-

“The decision of this jury is this, that the primary cause of the explosion at the Astley Deep Pit, was the blocking of the mouthing to the Smithy mine. This was an act of gross ignorance or culpable negligence, and was effected during Mr. Walshaw’s management, and with the knowledge of David Holmes. There is no reliable evidence by whose orders this was done. That the secondary cause of the explosion or explosions was the unsafe condition of the Half Moon Tunnel owing to insufficient timbering. There is evidence that the Astley Deep Pit was from the retirement of Mr. Ray to the dismissal of Mr. Walshaw in a state of anarchy, owing to the interference of Mr. Benjamin Ashton and his consulting conflicting authorities in the mine. The jury consider there is distinct evidence as to the employment of incompetent persons and placing them in authority. That the evidence of the authorities in the pit has been given with great hesitation and with an evident desire to conceal important facts. This remark applies especially to the evidence of the underlookers, Holmes and Else. That the underlookers failed in their duty in concealing from Mr. Hilton, when he entered in the management of the mine, important facts, especially in reference to the fire of 1865 and when Mr. Hilton became acquainted with the fact of the fire and the cavity in 1872, in not giving a complete history in what had been done. That Mr. Hilton failed in his duty in not thoroughly investigating the condition of the Half Moon Tunnel and the manner in which the 1865 fire was dealt with. That Samuel Higginbottom was guilty of great indiscretion in failing to fill the cavity and in the blocking of the Smithy Mine. The jury desire to express their strong opinion that the present system of inspection is imperfect and requires a full inquiry with a view to an

amendment. That the deaths of the 49 of the deceased resulted from an explosion of firedamp and that Charles Jones met his death from chokedamp in his generous efforts to save the lives of his fellow workmen.”

The foreman explained that in no way was the jury casting blame on Mr. Wynne. Mr. Wynne publicly acknowledged the brave efforts of the men who went down the pit after the explosion. He had seen the efforts they made and the dangers they ran with cheerfulness and complied with everything that was asked of them. He mentioned Mr. Holt, Mr. Sixsmith and Mr. Radcliffe by name.

INCE HALL. Saw Mill Pit. Wigan, Lancashire. 18th. July, 1874.

The colliery was in Ince Green Lane near the Company's works and had suffered two explosions about twenty years before. New pits had been sunk about 5 or 6 years before the accident to win the Wigan Five Foot, Four Foot and Nine Foot coal which lay at 363 yards, 391 yards and 416 yards from the surface respectively. The air went down the Saw Mill pit and went round the various workings and went to the Pemberton, up cast pit, which was a short distance to the west and also sink to the Nine Foot seam. Mr. Bullen was the manager of the colliery and Mr. George Gilroy was the managing director of the Ince Hall Coal and Cannel Company, Limited. He was a very eminent man in the coal industry and was the President of the Mining Association of Great Britain.

At the time of the explosion there were twelve men in the Nine Foot mine and thirteen in the Five Foot and Four Foot mines. About 6.46 a.m. there was a loud report followed by a dense cloud of dust from the shaft. All the men in the Nine Foot were killed and three of those who were at the mouthing of the Four Foot where they were waiting to be drawn up. The remainder of the men in the mine and felt the explosion, escaped by the shaft at the East Cannel pits.

The system of working the coal at the Ince Hall Colliery was one that was generally adopted in the Wigan Mines. During the day the colliers holed the coal at the top without cutting the side and prepared the shots, one in each corner of the place. The blasting was done by men selected for the purpose and were fired at night when the colliers were absent. On the day of the disaster 15 shots had been prepared in the No.3 district and it was the duty of John Crompton, the head fireman, and his assistant McAllister to fire these shots. They had fired seven shots and reached the No.3 Main Jig Brow where the explosion appeared to have taken place.

The rules that were laid down for firing shots stated that all the places were to be examined and the first shots to be fired were those at the return end of the district and work round meeting the air so that any gas given off would be carried to the upcast shaft and any places that showed any gas were not to be fired. On the night in question there seems to have been neglect on the part of Crompton who was said to be a steady and careful man. He had fired shots on Appleton's main Jig Brow and in Jones's opening close to Bullen's back brow which had been reported to him as containing gas both by the underlooker and the day fireman before he left the pit.

The evidence showed that Crompton had not examined the place and one of the shots in Appleton's main brow had blow out and it was possible that this had disturbed the gas in the back brow which would have been carried by the air to the lights for firing the shot in Jones's opening. The position of the bodies showed that they had been retreating from Jones's place when the explosion occurred. The damage to the mine was fearful, not a single prop or bar was left standing and everything else was torn to pieces. The roof had fall in several places to several feet in thickness which made the rescue operations difficult and dangerous and several of the rescuers had to go to the surface for treatment after they had been overcome by the gas. John Peake, the carpenter at the pit took part in the rescue operations and found the body of John Ashcroft about fifteen yards from the shaft and later that of Martin Rourke, the fireman, in the office. The last body was recovered only in February 1875.

The men who died were-

John Ashcroft aged 28 years, fireman.

John Burns, fireman, aged 25 years.

John Crompton, fireman, aged 40 years left a wife and eight children.
Samuel McAllister, fireman, aged 43 years left a wife and six children.
John Harris aged 54 years, dataller.
Richard Tregise aged 27 years, dataller.
Richard Rown aged 46 years, dataller.
Frank Anther aged 50 years, dataller.
Richard Goulding aged 21 years, dataller.
Anthony Jenkins aged 21 years, dataller.
Oliver Spencer aged 18 years, dataller.
Charles Kimble aged 25 years, dataller.
Martin Rourke aged 45 years, furnaceman a widower with two children.
Morris Shaw aged 47 years, bricksetter.
John Wood aged 27 years, labourer left a wife and child.

At the inquiry Mr. Bullen expressed a fear that if the coal was blown away as at present there would be similar accidents and if the coal was cut, fewer shots would be required. The south Levels had been worked without powder for 900 yards from the shaft and the men paid an extra price for cutting. Mr. Gilroy said-

“As to the working of the mine and the use of powder, I might mention what is intended for the future. The South Levels have been got without powder but the reason was that there was gas in the roof (course roof coal) which facilitated the working of the coal. We intend to stop the No.3 district and to open out new pairs of brows at distances of about 200 yards along the main level which will all be driven put slowly without powder and held at intervals of from 100 to 150 yards, forming large pillars which will be allowed to stand a sufficient length of time for the gas to drain off. When these pillars are properly drained, we will work them, indeed the pillars now standing are now free from gas. I think they will have to be come modified to longwall working tonight I am afraid that this work may not be practice in consequence of the thickness of the mine and the packing would be too expensive. In the mine was not worked in this way and time given for the gas to drain, powder could not be used safely.”

Mr. Bell agreed with these methods of working the coal and recommended the system to other coal owners as a way of guarding against disastrous explosions.

The jury returned the verdict-

“That the said deceased on the 18th. July died from the effects of an explosion of firedamp then occurring in a certain coal mine. The explosion probably occurred either in Jones’s or Appleton’s working place from gas which had proceeded from Bullen’s working place, owing, as we believe, to Crompton the shotlighter having omitted to examine the place, as it was his duty to do so.”

TITFORD LONG MEADOW. Oldbury, Worcestershire. 23rd. July, 1874.

The colliery was owned by Joseph Hacket and was being sunk at the time of the accident. Seven people were injured and five subsequently died from their injuries. The Thick coal at the pit had been worked for many years and in order to work some coal to the dip of the shaft it was necessary to have one of the gateroads in the Heathen coal which lay a few feet below the thick of Ten Yard seam. This gateroad was made the return airway. Some months after it had been opened a fire was discovered just above the roof in the old Thick coal workings and it had burnt through everything between the Heathen coal and the Thick coal seams. the origin of the fire was a mystery and it was supposed to be spontaneous combustion but no symptoms of a fire had been seen in the place.

On the morning of the accident men were trying to extinguish the fire and were pumping water from a small hose at the fire. Suddenly a crash was heard in the old Thick coal workings above and the atmosphere in the place where the men were became very hot. The men rushed to the shaft and

were drawn up and were sent home with the impression that an explosion of firedamp had taken place. The mine was sealed to prevent the fire spreading.

None of the men appeared burnt and their clothes, skin and hair had no traces of being singed but it soon became apparent that they were ill. They complained of a great thirst and a sense of suffocation and all but two died shortly afterwards.

It was assumed that they had inhaled very hot air which had inflamed the respiratory organs and they had died from suffocation.

The men who died were-

John Dyas, overman, killed on the day of the accident,
Edward Cook, pumper who died on the 24th. July,
Joseph Roberts, collier. died on the 24th. July,
Richard Roberts, collier who died on the 26th July and
James Jackson, collier who died on the 30th. July.

The inquest was adjourned several times with the hope that the mine might be re-opened and the cause of the disaster found. Mr. Baker, the Inspector said-

“I gave it as my belief that the crash spoken of by the workmen was the result of an extensive fall of roof in one of the openings in that measure, in which the confined air had been intensely heated by the fire in the old goaf or the thick coal hollows. This heated air would be displaced and driven by the fall through the opening in the roof into the gateroad where the men were at work. The owner himself was, fortunately for him some yards distant and escaped without injury.”

After waiting for some months, there was no hope of inspecting mine and the jury, which was composed of several practical miners, returned a verdict of ‘Accidental Death.’

BRYN CETHIN. Bridgend, Glamorganshire. 26th. September, 1874.

The colliery was the property of the Barrow Steam Coal Company. There were many small drifts in the area which exploited the Red Ash seam and others which outcropped in the area and provided house coal. The Barrow Company wished to reach the more profitable Steam Coal which lay at a greater depth. This could be done only by sinking shafts. The men were killed by falling down a sinking shaft when part of a cast iron crab winch broke. The stage was tipped and seven men fell 30 feet into the sump which was 12 feet deep. Two managed to save themselves by clutching the bowk which was about to ascend but the others drowned in the water.

The men who died were-

S. Llewellyn aged 36 years. mason,
W. Franks aged 23 years., mason,
T. Davies aged 23 years, mason,
J. Rook aged 23 years, sinker and
C. Howell aged 27 years, sinker.

At the inquest which was held at The Royal Oak Inn, Bryncethin, Mr. Thomas Burns, the manager of the colliery, said that cracks were found in the cast iron of the crab which had widened under strain, causing the drum to run free. Mr. Wales suggested that wooden crabs should be used instead of iron ones.

RAWMARSH. Rotherham, Yorkshire 20th. November, 1874.

The colliery was the property of Messrs. John and Joseph Charlesworth and was at Rawmarsh near Rotherham. It had worked for thirty five years before the disaster and the explosion claimed 23 lives which occurred in the dip levels of the Barnsley seam. The colliery was an old one and had

abandoned workings which were very extensive. It worked the Barnsley seam at a depth of 127 yards. there were seven shafts which communicated with this seam, four of which were downcast, including a pumping shaft. The remainder were upcast shafts. The colliery was ventilated by furnaces. From the 'Old' or Rawmarsh pit, three bords were driven in a north easterly direction parallel to each other and at the time of the disaster, extended for almost a mile. The bords were driven with a sectional area of about sixty to seventy square feet each and were perfectly straight at an average gradient of about two and a half inches to the yards. The part of the pit that was affected by the explosion was No.7 in the dip south levels and this was about 1,400 yards from the shaft.

On the day of the explosion there were about 460 men and boys in the Warren Vale and the Rawmarsh pits. William Hargreaves was the certificated manager and had been at the colliery for nineteen or twenty years. John Harrison, fire-tryer at the colliery was on duty on the 20th. November and at about 6.45 a.m. was in the dips of the No.7 south level and found it clear of gas. Thomas Roebuck entered this report in the book and went to the north side. He was at the pit bottom when the explosion occurred at about 7.50 a.m. He did not feel anything but heard someone say, '*Oh dear! Something is up.*' John Waddington, another fire-tryer, also found no gas.

George Johnson Kell was the colliery engineer and had been at the colliery from April 1862 and went down the pit at 10.10 a.m. after the explosion and met Roebuck travelling down the man bord and after examining the return air for gas he made an examination and came to the conclusion that there was no fire, and he gave instructions to put out the furnace. Men were found suffering from the effects of afterdamp.

John Fretwell Thompson, a mining engineer who lived at Wath and worked at Manvers Main, gave an account of the events in the pit after the disaster. He said-

"When I got to the pit I saw the manager, Mr. Hargreaves and asked him if I could be of assistance. He asked me to go down the pit and I went down. In the engine plane I met Mr. Kell and the others just where the explosion had taken place. We went to examine the bottom of the gates in the first bank and found it full of gas. We then had a consultation and we decided to go and re-light the furnace. I took charge of the exploration party after that. When I got back to the level end, I took some men with me, and examined the stoppings, which had been put up in a great hurry and they require repairing. We then went into the second gate in the far bank. I then ascertained how far the gas had got up there. When we got about half way up we found a body. We went a few yards further and found another two. We found gas on the far side of the bank next to the face. I then examined the levels coming round to the far gate again. while I was there was a report of a fire in the first gate of the bank. I returned with the man who made the report, Charles Moore, that there were two bodies in the first gate and a fire. We tried to put it out but did not succeed. All the men left the pit with the exception of Ward, Brown, Firth and Lazenby. We went to the fire and found it burning just behind the gate. A man's jacket was on fire and a clog. We got it out as best we could with the assistance of a bottle of water. There was a deal of smoke and there was gas five or six feet off. We found the body of and there with a stone on his head which had killed him. We then came across the bank face, the roof of which was heavily weighted. We found two men at the far side of the first bank, near the second gate. We found four near the far gate of the first bank. We came out to the level and after a short rest, we went back and brought out one man out of the first gate to the level and the found that we could do no more. I sent out of the pit a note for fresh men and when they came, we got all the bodies out."

Those who died were-

Joseph Thompson.

Thomas Beighton.

Richard Skelton.

Thomas Astill.

Henry Cooper.

James Mort.

George Wright.

William Cooper.
Samuel Thompson.
Samuel Skelton.
Thomas Roberts.
William Byron.
John Jowett.
Henry Stead.
John Woodin.
Ben Turner.
John Tomlinson.
George King.
Luke Oxley.
Isaac Oxley.
Frederick Cliff.
John Walker.
George Taylor.

The inquiry into the disaster was conducted by the Coroner Mr. D. Whiteman and Mr. Wardell had the assistance of another Inspector Mr. Thomas Evans. George Kell thought that the explosion was the result of an outburst of gas in the No.1 bank and that it was lighted by the naked candles of the men who were working nearby. John Fretwell Thompson believed that the cause of the explosion was fall of roof in the goaf which drove out the gas. Several colliers said that they would sooner work with candles than with Stevenson lamps. Mr. Wardell recommend that the mine should be lit by Stevenson's lamps.

The Coroner summed up and the jury retired and returned the following verdict-

“That the deceased were accidentally killed by an explosion of gas at the Rawmarsh Colliery on the 20th., and the jury recommended that Mr. Wardell's recommendations should be adhered to.”

Mr. Wardell reported that the Stevenson's lamps had been adopted by Messrs. Charlesworth and that William Hargreaves, the manager of the colliery, who was ill at the time of the explosion, had died.

OGMORE. Bridgend, Glamorganshire. 7th. December, 1874.

The colliery was being sunk by the Ocean Steam Coal Company and the men were killed by an explosion of gas while they were sinking shaft. The pit was also known as the Edwards Pit and was the property of Messrs. David Davies and Company. The pit worked round the clock with three shifts and there was heading about 70 yards from the surface to another pit. Sinking operations were going on at the pit and the shaft had reached a depth of 230 yards and was 14 feet wide.

Thomas Stephen, master sinker, was down the pit at about 7 a.m. and all appeared safe to him. There were eight or nine men working with candles. As master sinker he received instructions from Mr. Jenkins the manager of the works at the colliery and difficulty was expected in keeping ahead of the water. It was planned to let the water rise as they went on walling the shaft. It was known that there was blower of gas about 17 yards from the bottom of the shaft which had been opened about six or seven months before the accident. The air pipes were brought closer but even so the gas had been known to catch fire from the shots and produce a flame about three or four feet high. Sometimes it would go out by itself and on other occasions it had to be extinguished.

He went down the pit about 2 p.m. and came up again. The men, in the period between him going up and the disaster, were boring a hole for a shot and they had sent up two tubs of rubbish.

Thomas Lloyd of Pembroke Terrace, Nantmole, was the engine driver at the colliery and the five men were the only ones in the pit and had gone down at 2 p.m. Lloyd knew that a shot was to be fired. He heard the signal to 'get ready' to raise at about 3 p.m. and had just begun to wind when the explosion took place. Quantities of smoke, stones and timber were thrown into the air about ten

yards over the framing. No sounds of human voices were heard and the engineman stopped the engine. About a quarter of an hour later he started to wind again but all that came up was a piece of the scaffold. The bucket had been blown to pieces. The banksman at the pit was Isaac Brown and he was slightly burned by the explosion. He heard the noise of the blast when the engine had turned only a few strokes.

The men who died were-
Lewis. Davies, sinker,
Thomas. Davies, sinker,
Thomas Watkins, sinker,
Thomas Morris, sinker and
Rowland Pugh, foreman mason.

The inquest into the disaster took place at the house of Thomas Hopkins, the Nantmole Hotel at Nantmole in the Parish of Landyfodwg before Thomas Stockwood, H.M. Coroner for the Manor of Ogmere.

Evidence was given by Thomas Stephens, master sinker of Graig Row, Nantmole that on the Monday there was about 35 yards of water at the bottom of the shaft. The five deceased were working on a platform about 180 yards from the surface so the space between the water and the scaffold was about 14 yards. The air was taken down the pit in canvas tubing, two feet in diameter and the tubes went to within five or six feet of the stage. When water accumulated on the scaffold, it was allowed to fall to the bottom of the pit and it was thought that this could have displaced the gas upwards. Stephens went on to say-

“When the air was foul the air pipes were kept underneath the stage. I had no reason to believe that there was much foul air in the pit.”

The jury brought in the verdict that-

“We find a verdict of accidental death and that the accident happened through ignorance on the part of the master sinker, Thomas Stephens, but that he is not criminally responsible for it.”

The Inspector commented-

“I have seldom met a case where there has been such a thorough disregard for the proper men's of safety of the men employed. The blower had existed for several months and although the manager paid frequent visits to the colliery, he distinctly stated at the inquest that he had never heard of it before the explosion. The non-ventilation of that part of the shaft between the surface of the water and the stage was, in my opinion, a breach of the first general rule.”

Proceedings were taken against the manager for this breach of the rules and the case was heard before magistrates at the Bridgend Police Court on Saturday 6th. February. After a short consultation the magistrate gave the following decision-

“We are unanimously of the opinion that the only reasonable theory was that set up by Mr. Wales, that the explosion occurred due to the consequence of the blower. We are also of the opinion that the defendant had not taken proper means to make himself cognisant of the state of the pit. We must therefore, considering the serious nature of the case, fine him the full penalty of £20 and the costs of the case.”

BIGNALL HALL. Audley, Staffordshire. 24th. December, 1874.

The colliery was the property of the representatives of the late Josiah Wedgewood and an explosion occurred in the Bullhurst Seam. George Fryer, the underlooker found the ventilation good and everything was safe. He had been given authority to order lamps but did not do so as he saw no necessity as he allowed naked lights to be used when gas had been cleared away.

Enoch Gayter was the manager of the colliery and had been down the pit the day before the explosion but he had not been in the Bullhurst seam. He always examined the Report Books and it was unusual for gas to be found in the pit.

The banksman, James Holden was at the pit top at the time of the explosion and saw smoke and dust come from the downcast shaft and heard the noise of the blast. Joseph Read, a collier was working in the Bullhurst seam on the day of the explosion and went down at 5.40 a.m. and worked on the West side until about 7 o'clock. he was in the No.3 Heading but saw only a little gas in the bolt hole in the east side but was not enough to cause him alarm. The fire came up the dip and he lost consciousness and was rescued by other workmen.

Those who lost their lives were:-

James Handley, collier in the No.3 East Heading.

Henry Machin, collier in the No.3 East Heading.

Enoch Procter collier in the No.3 East Heading.

Samuel Plevin, collier in the No.3 East Heading.

Thomas Turner, wagoner in the No.2 East Heading.

Alexander Obery, collier in the No.2 West Heading.

William Cotton loader in the No.2 West Heading.

Frank Browning, loader in the No.2 West Heading.

William Bentley, collier in the No.2 West Heading.

Joseph Ashley, collier in the No.2 West Heading.

John Lunt, horse driver.

Henry Halfpenny, wagoner, in the No. 3 West Heading.

George Cotton, fireman.

Joseph Mayer, collier in the No.2 West heading.

Levi Browning, collier in No.3 West Splitting.

John Plevin, loader, Nos. 2 and 3 East Headings.

William Dudley, hooker in Gin Dip and wagoner in Nos. 2 and 3 East Headings.

The inquest was held at the Boughey Arms. Audley by Mr. Booth, Coroner. George Frier, the at the colliery stated that he had found gas in the heading on the East side on the morning of the explosion about 17 to 18 yards from the workings because the brattice was short. He did not allow naked lights to be used until the gas had been cleared away.

Joseph Fryer, butty was in the mine at the time of the explosion and saw a little gas. He had worked in the pit for about 14 years and during the whole of that time, he had worked with naked lights. he went to his working place about 7 o'clock and found a little gas as had been described by Cotton, the fireman.. He saw Machin and asked him when he was going to work in the turning. Machin told him that he would go after snapping time. He asked Machin to take a lamp but Machin said he knew all about it.

Mr. S.B. Gilroy, the Assistant Inspector of Mines for North Staffordshire went down the pit on the evening of the explosion and saw that stoppings in the Bullhurst seam had been blown upwards from the main level and two boards had been blown our of an air door in the west level but the frame had remained intact. It was his opinion that the explosion had originated at the loader's naked light in Machin's level at the bottom of the bolt hole. There were no falls of roof on the roads and very few props down

The explosion might have been prevented if Harry Machin had not gone in with the top off his light.

The jury brought in the following verdict-

“We wish to express out opinion that there was not enough care taken in the working of this mine and naked lights ought not to have been used and we recommend that locked lamps should be used in the Bullhurst and Banbury seams of this district.”

ALDWARKE MAIN. Rotherham, Yorkshire. 5th. January, 1875.

The colliery was the property of Messrs. John Brown and Company and the explosion took the lives of seven men. Charles Edward Rhodes was the manager of the colliery and J. Brown and Company had purchased the Aldwarke Main and the Carr Houses Colliery about eighteen months

before the disaster. Both the colliers were now worked together. Naked lights were used in the pit which worked the Barnsley Seam. Both the pits were ventilated by furnaces and in the latter the air passed directly over the furnace. The upcast shaft at Carr House acted partly for Aldwarke Main. There was stopping in which there was a regulator built in between the workings of the two pits.

To a great extent most of the coal had been worked and there were only a few pillars at the extremity of what was called the Carr House Levels. The district in which this coal was worked was called the Third South which was 1,100 yards from the shaft.

A deputy, Mr. Ford, used to go round the pit with a open lamp to test for gas and at the inquest, Mr. Wardell said he strongly disapproved of this practice. At the time of the explosion there were about 300 men and boys in the pit with only one deputy in charge.

Robert Copley of Mangham Quarry, Parkgate was the fire-tryer at the colliery and was on duty on the 15th. from 10 p.m. on Monday to 6 a.m. on Tuesday morning. It was his duty to inspect the south of the pit and he saw nothing wrong with the roadways or the ventilation. He went along the pack road on the Tuesday morning and inspected the roof which seemed all right. There had never been gas found in the mine before except in the deepest workings. He was in bed when he was told of the explosion. He went to the pit and went down to help with the rescue operations but was overcome by the afterdamp.

Thomas Speight who was a deputy on duty on the morning of the disaster made a report that the Carr House workings where the explosion took place were 'all right and safe' When the explosion took place about 6.20 a.m., when there were about one hundred and twenty men and boys in the pit. He was at the pit bottom and did not hear anything as he was about 1000 yards away. The first he heard of the explosion was when a man brought him a report that his father thought that there was gas in his place on the south level. Speight did not think there was danger in that place as the ventilation was very good and he told the man to go back to work and sent Holroyd, one of the deputies to see if there was any danger and followed him. It was then that he realised that there had been an explosion. He made his way to the scene and found Usherwood's body in the third south ending. The others were buried under a considerable quantity of fallen material. It was thought that Usherwood had been behind the others when the explosion took place. He went to the top but the afterdamp was so strong that he had to return to the first south ending where a stopping had been blown out and he and a man named Ford repaired it. Thomas Ainsworth, a deputy at the pit, found the last six bodies buried in the goaf wall at the third south ending of the Old Carr House Colliery.

When the Inspector arrived at the colliery as the bodies were being recovered and observed that by gradually carrying on the air through the affected district, it made the recovery of the bodies possible and the pit workable again. On inspecting the pit he was of the opinion that the gas came from the top of the south heading from the goaf which extended over about 50 acres. He recommended that locked lamps be used in the mine and better discipline should be enforced in keeping the statutory record books.

The men who died were-

Thomas Griffiths aged 35 years,
George Bilyard bricksetter's labourer,
Benjamin Ege aged 21 years,
George Cooper aged 29 years,
Samuel Usherwood aged 19 years,
Richard Bennett aged 25 years and
William Whitehead aged 24 years.

The inquest was held by Mr. D. Wightman, Coroner. An examination of the mine had been carried out at the request of the men by Mr. Ford and the coroner said that this was an improper proceeding, not that they did not have the right to make an examination but the fact that they had published the result of their report and placed before the jury was what he thought improper. Mr. Wightman went on to say-

“If Mr. Ford had not moved the blame from his shoulders then I would have felt it my duty to severely reprimand him. It was a most imprudent thing to publish a report of an investigation and state that nobody was to blame before the jury had heard the evidence of a single person on oath. I might state that the newspapers stated that the investigation was made at the invitation of Mr. Ford and that the newspapers do not always get the correct information. I have heard Mr. Ford’s explanation but the report which had been published at any rate threw a certain amount of suspicion on Mr. Ford and he ought to have known better than to allow such a proceeding to take place.”

The room was cleared and after a short consultation the jury returned the verdict of ‘Accidental Death’ and added the recommendations that the use of naked lamps should be discontinued and safety lamps only should be used and that there should be more deputies.. The jury also referred to the manner in which the danger record books were kept and Mr. Rhodes, the manager, assured the jury that their recommendations would be strictly carried out.

BUNKERS HILL. Staffordshire. 30th. April, 1875.

The colliery was the property of Messrs.. William Rigby and Company with Mr. George Sumner as the manager. An explosion took place at the colliery which claimed the lives of forty men and boys. The colliery was close to the Talk o’ th’ Hill and Bignall Hall Collieries at which there had been previous disasters. Every precaution was taken for the safety of the men and on the morning of the disaster one hundred went to work in the pit including thirty five into the Eight Feet Banbury seam to work about 800 yards from the shaft.

The explosion occurred about 1 p.m. causing some damage to the headgear. Exploring parties went down the pit a few bodies were found including that of Nehemiah Sumner, the manger’s son but the majority of the men were working at the far end of the workings which were not reaches until late at night. By 5 p.m. forty one bodies had been recovered and it was thought that all were out of the pit but a poor woman enquired about her husband. A further search was organised and his body was found at the far end of the dip. Two of the men had started work the previous day and had been down the pit only two hours

THE VICTIMS.

[Missing are the on the plan? CHECK Should be 43.]

The inquest into the disaster was opened at the Swan Inn, Talk o’ th’ Hill, by Mr. J. Booth, Coroner. Mr. Wynne, the Inspector made a thorough inspection of the workings and Mr. S.B. Gilroy, Assistant Inspector, thought the mine was well managed but Mr. Wynne commented-

“For more than twenty years I have been pointing out what a ‘farce’ it is to prohibit the use of naked lights in mines and yet allow powder to be used and have indulged in the hope that self-preservation would prevail over the more idle method of getting coal by blasting but I am now satisfied that the only safe course to take, is to prohibit all explosives in coal mines, and in a few years the coal owners would wonder how they could have allowed their coals to be blow to atoms and the roofs shaken as they have been for many years and the colliers would find that, having got rid of the impure fumes of the powder and dangers of explosions, together with the comparative safety from falls of roof, they were amply repaid for an extra hour of labour the wedging process would entail. Nothing could more clearly show the advantage of wedging over those of powder than to state of the two downbrows of 600 yards each, which effectually withstood the enormous strain which must have been put on them by the force of the air that must have been driven from the seat of the explosion, to the top of the upcast shaft, not so much as a hundredweight of coal was blown down in them or in the dips the slightest degree injured, or indeed was that proportion of the levels which was driven without blasting.

The only reason assigned for the change from wedging to blasting was, that Mr. Rigby could not compete with his neighbours if he wedged the coal and they blasted theirs so that to meet competition he was obliged to increase production and lessen cost.”

In the report made by Mr. Dowdswell there was no doubt that the explosion was caused by a shot fired in a thirling on the East side of the engine brow and he was satisfied that there had been no breach of the rules and the fireman had taken all precautions before he fired the shot. It was thought that the method for firing the shots by a touch paper, was most dangerous. It was thought that the fireman went to light the fuse and retired to a place which he thought was safe and opened his lamp to light the touch paper and it was thought that the gas came from the floor of the mine.

The jury returned an open verdict and recommended that blasting should be discontinued in all mines in which safety lamps were used. They also recommended that in opening out new workings, the ventilation should be set by bratticing and not by air pipes.

DONNINGTON WOOD. Lilleshall, Shropshire. 11th. September, 1875.

The colliery was the property of the Lilleshall Company and Mr. C. Greene was the manager of the colliery. At the inquiry the first witness was a sinker named James Hancock who was repairing the pit on the day of the accident. The ventilation seemed perfect and there were no unusual smells. Thomas Hart also a sinker had gone round the workings and saw nothing unusual. Henry Guy, chartermaster at the pit, had examined the pit thoroughly on the Friday before the disaster and found nothing untoward.

On the day of the accident Guy saw the eleven who were killed go down the pit but, as he was otherwise engaged he did not hear any of the signals. James Hayward a collier at the pit thought that the smoke coming from the shaft was more than usual when the men descended. When no answer was received after the lowering of a horse into the mine there was cry of ‘*Fire*’ from the downcast shaft and Guy and other men went down the pit. The signalling apparatus was in perfect order but the men had been let down into a foul atmosphere which had overcome them.

They found that to reach the men, who were in the inset, a special roadway had to be made. A sinker, William Pitchford was the first to discover bodies. There were two and where they lay the air was good but there was some smoke in the atmosphere. At the inset the air was so foul that it extinguished the lamps.

The men who died were-
Edward Wallett,
John Tranter,
Joseph Marden,
John Jones,
Benjamin Davies,
William Onions,
John Farr,
William Jarrett and
Francis Cookson.

The inquest into the deaths of the eleven men was held at the George Hotel, St. George, Shropshire before Mr. Newhill, Coroner. John Torrington, the engineman at the colliery, thought that more smoke than usual was coming up the pit shaft on Saturday but he thought it came from fires lighted by the sinkers. There had been a 6 feet ‘tree’ set near where the bodies were found and the chartermaster knew that fires could start in the slack and from men and boys using candles.

The chartermaster of the downcast shaft, Jabez Dorricott said that the workings there had always been good but the clod in the airways had recently fallen. About twenty six years before he had known of a fire in the gob. Mr. S.B. Gilroy did not think that there had been an explosion but that the men had died from inhaling smoke that had been emitted from the coal where the roof had broken down in the airway or had escaped from old workings. The cause of the fire was

spontaneous combustion and he thought that all possible human precautions had been taken and there as no one to blame for the accident.

The Coroner summed up and the jury brought in a verdict of 'Accidental Death' and added a rider that-

"They were of the opinion that the signal for the descent of the second band of men had not been given and that if it had the men might have been saved."

The Coroner then read a letter from Mr. Lloyd, the General Manager of the Lilleshall Company expressing their desire to adopt practical suggestions for the prevention of such lamentable accidents and also the concern of Earl Granville, the Chief Proprietor of the mine, at the nature of the catastrophe, sympathy for the bereaved widows and children and a wish by His Lordship to relieve the distress. The letter went on to say that a plan for raising funds had been submitted to the Earl for his approval.

RAWMARSH. Rotherham, Yorkshire 20th. November, 1874.

The colliery was the property of Messrs. John and Joseph Charlesworth and was at Rawmarsh near Rotherham. It had worked for thirty five years before the disaster and the explosion claimed 23 lives which occurred in the dip levels of the Barnsley seam. The colliery was an old one and had abandoned workings which were very extensive. It worked the Barnsley seam at a depth of 127 yards. there were seven shafts which communicated with this seam, four of which were downcast, including a pumping shaft. The remainder were upcast shafts. The colliery was ventilated by furnaces. From the 'Old' or Rawmarsh pit, three bords were driven in a north easterly direction parallel to each other and at the time of the disaster, extended for almost a mile. The bords were driven with a sectional area of about sixty to seventy square feet each and were perfectly straight at an average gradient of about two and a half inches to the yards. The part of the pit that was affected by the explosion was No.7 in the dip south levels and this was about 1,400 yards from the shaft.

On the day of the explosion there were about 460 men and boys in the Warren Vale and the Rawmarsh pits. William Hargreaves was the certificated manager and had been at the colliery for nineteen or twenty years. John Harrison, fire-tryer at the colliery was on duty on the 20th. November and at about 6.45 a.m. was in the dips of the No.7 south level and found it clear of gas. Thomas Roebuck entered this report in the book and went to the north side. He was at the pit bottom when the explosion occurred at about 7.50 a.m. He did not feel anything but heard someone say, '*Oh dear! Something is up.*' John Waddington, another fire-tryer, also found no gas.

George Johnson Kell was the colliery engineer and had been at the colliery from April 1862 and went down the pit at 10.10 a.m. after the explosion and met Roebuck travelling down the man bord and after examining the return air for gas he made an examination and came to the conclusion that there was no fire, and he gave instructions to put out the furnace. Men were found suffering from the effects of afterdamp.

John Fretwell Thompson, a mining engineer who lived at Wath and worked at Manvers Main, gave an account of the events in the pit after the disaster. He said-

"When I got to the pit I saw the manager, Mr. Hargreaves and asked him if I could be of assistance. He asked me to go down the pit and I went down. In the engine plane I met Mr. Kell and the others just where the explosion had taken place. We went to examine the bottom of the gates in the first bank and found it full of gas. We then had a consultation and we decided to go an re-light the furnace. I took charge of the exploration party after that. When I got back to the level end, I took some men with me, and examined the stoppings, which had been put up in a great hurry and they require repairing. We then went into the second gate in the far bank. I then ascertained how far the gas had got up there. When we got about half way up we found a body. We went a few yards further and found another two. We found gas on the far side of the bank next to the face. I then examined the levels coming round to the far gate again. while I was there was a report of a fire in the first gate of the bank. I returned with the man who made the report, Charles Moore, that there were two bodies in the first gate and a fire. We tried to put it out but did not succeed. All the men left the pit with the exception of

Ward, Brown, Firth and Lazenby. We went to the fire and found it burning just behind the gate. A man's jacket was on fire and a clog. We got it out as best we could with the assistance of a bottle of water. There was a deal of smoke and there was gas five or six feet off. We found the body of and there with a stone on his head which had killed him. We then came across the bank face, the roof of which was heavily weighted. We found two men at the far side of the first bank, near the second gate. We found four near the far gate of the first bank. We came out to the level and after a short rest, we went back and brought out one man out of the first gate to the level and the found that we could do no more. I sent out of the pit a note for fresh men and when they came, we got all the bodies out.”

Those who died were-

Joseph Thompson.

Thomas Beighton.

Richard Skelton.

Thomas Astill.

Henry Cooper.

James Mort.

George Wright.

William Cooper.

Samuel Thompson.

Samuel Skelton.

Thomas Roberts.

William Byron.

John Jowett.

Henry Stead.

John Woodin.

Ben Turner.

John Tomlinson.

George King.

Luke Oxley.

Isaac Oxley.

Frederick Cliff.

John Walker.

George Taylor.

The inquiry into the disaster was conducted by the Coroner Mr. D. Whiteman and Mr. Wardell had the assistance of another Inspector Mr. Thomas Evans. George Kell thought that the explosion was the result of an outburst of gas in the No.1 bank and that it was lighted by the naked candles of the men who were working nearby. John Fretwell Thompson believed that the cause of the explosion was fall of roof in the goaf which drove out the gas. Several colliers said that they would sooner work with candles than with Stevenson lamps. Mr. Wardell recommend that the mine should be lit by Stevenson's lamps.

The Coroner summed up and the jury retired and returned the following verdict-

“That the deceased were accidentally killed by an explosion of gas at the Rawmarsh Colliery on the 20th., and the jury recommended that Mr. Wardell's recommendations should be adhered to.”

Mr. Wardell reported that the Stevenson's lamps had been adopted by Messrs. Charlesworth and that William Hargreaves, the manager of the colliery, who was ill at the time of the explosion, had died.

ALEXANDRA. Wigan, Lancashire. 4th. December, 1875.

The colliery was owned by the Wigan Iron and Coal Company, Limited. The men were thrown from a descending cage when it collided with the ascending cage at the 'meetings'. The pit was 250 yards deep and 19 feet in diameter. The winding engine had a double 20 inch diameter cylinders and a 4 foot stroke which drove a drum of eight feet in diameter. The cages were six feet by four and half feet long and three feet by seven and half feet wide. Two trams were loaded and unloaded along the wide side of the cages which were well built and weighed about thirteen hundredweight each. There were two guide ropes per cage.

Ralph D. Grundy was the mechanical engineer at the colliery and had inspected the cages and headgear on the morning of the disaster and found all was in good order. The conducting rods, which were made of twisted steel, one inch in diameter and two rods per cage. Each rod had a weight of two tons fifteen hundredweight which were hung in the sump, three feet clear of the dib hole. There was a space of thirteen inches between the cages. James Prescott, the engineman, let the men down at the usual speed. Two of the men had never been down a pit before. All the men in the cage were employed by Mr. Holding, a contractor to build a brick arch at the mouthing of the Pemberton Four Foot seam. They started work at 6 a.m. and the accident happened at 10 30. a.m.

Those who lost their lives were-

Thomas Beach aged 34 years, chargeman, who left a wife and three children.

Charles Holden aged 26 years, metalman, married.

Joseph Smith aged 20 years, bricksetter's apprentice.

Joshua Fairclough aged 19 years, bricksetter's apprentice.

James Birchall aged 26 years, bricksetter, who left a wife and two children.

Patrick Nolan aged 25 years, labourer.

Patrick Murphy aged 22 years, labourer.

At the inquest, James Prescott said that he could not account for the accident. He thought the cages had been made to sway and so come into contact. Whether this was by accident or design, he could not say but he stated that the men were sober at the time.

William Sharrocks, machinery inspector said that the machinery was in good order and William Holden, the contractor, stated that he had no responsibilities for the machinery. Charles Gidlow Jackson, the manager of the colliery, told the court that he thought there were two men outside the cage. One had fallen out and struck the other ascending cage which caused it to sway and come into contact with the descending cage. The state of one of the bodies caused him to come to this conclusion.

The Coroner summed up and the jury brought in a verdict of 'Accidental Death' and added that the Wigan Iron and Coal Company should take measures in preventing such an accident occurring again.

NEW TREDEGAR. Bedwelty, Monmouthshire. 4th. December, 1875.

The colliery was owned by Sir George Elliott, M.P., and Company and Mr. Louie was the manager. Five hundred men worked in the pit and when it was in full production it produced 3,500 tons per week but at the time of the explosion there was depressed market for coal and the mine was producing only 1,000 tons per week with the men working a four day week. Discipline at the mine was generally good and it was stated that it was worked with locked lamps. The previous Friday, two men, George Batten and Aaron Williams had been burned when a blower ignited when a shot was fired at the top.

William Strong, the fireman, carried out the inspection before the men went down and told the next fireman, John Morris that all was well. When the explosion occurred there was no shortage of volunteers and Mr., Louie led the first party to go down. A lamp with a hole in the gauze that was large enough to let the flame through was found.

After the disaster Mr. Brough went to the colliery with Mr. Cadman H.M. Inspector of Mines for the South West District, after meeting him in Newport and made a careful inspection of the Top Ras

Las seam where the explosion took place. They found that there was very little damage done by blast other than blown out doors and stoppings and as soon as the gas cleared they were able to inspect every part of the mine, and they came to the conclusion that there had been two explosions, one on the Friday evening and another the following morning.

They found an old stall road leading to Joel Ancock's stall that had been partially blocked off at the end but to keep it clear of gas, a small air current was allowed to pass through. Some gas had accumulated in or near this stall and was ignited when shot was fired by two men in the main roadway near the entrance to the place. Two men were burned in the next roadway and this explosion occurred on the Friday night.

The scene of the explosion consisted of a straight main heading with three working stall roads off it on the right hand side and four off the left, with the working face all round. The air coming down the road first ventilated Ancock's old place and the three others on the right, passed around the bottom of the main heading, along the face of the coal on the left and joined another fresh spilt above, ventilated a few more places and passed directly into the main return.

The Inspector thought that the second explosion was caused from the same blower that would have been burning in the goaf or that the gas from the blower had become ignited by some means in the right hand side of the heading. Gas appeared to be given off more readily on that side although it could not be detected by a lamp after the air had been restored but blowers could be heard. The fact that there was little damage done led him to the conclusion that little gas had exploded. Mr. Cadman and Mr. Brough made careful inspection and found that the second blast had started on the left hand side, charred Arthur Thomas' stall and for then went to Moses Prangle's where traces of the explosion were most evident. The force of the blast had blown each end of Prangle's stall out which indicated that this was the point of ignition.

As to how the gas accumulated there, the Inspector found that some men were engaged in making a place for some wooden doors in Moses Prangle's stall in place of a brattice sheet that was hanging there. The men were at work a few yards from the sheet and in moving backwards and forwards they may have moved it or temporarily removed it for convenience.

Those who died were-

Llewellyn Jones.

Thomas Price.

Roger Williams.

John Jones.

John Williams.

Moses Prangley.

Ethel Edwards.

John Davies.

John Jones.

Arthur Thomas.

John Williams.

William Williams.

John Thomas.

Samuel Jenkins.

Stephen Sellick.

William Evans.

George Williams.

George Sanders.

Thomas John Williams.

James James.

Edwin Hinder.

Thomas Evans.

The injured-

John Pugsley escaped though burned and
Aaron Williams and
George Batton injured on the night of the 3rd. December.

There were two inquiries held by two Corners, one from Glamorganshire and the other for Monmouthshire. The inquiries were arranged so that one should follow the other with two different juries. At the inquest held by George Overton, Coroner held an inquest at Pontlottyn. John Hancock, the night overman, said that Emmanuel Jacobs was ripping the top by shots and did not consult with him. The shots were fired by the night fireman, John Williams who was assisted by John Morgan. Hancock said that there were usually about 30 shots fired per night.

John Lloyd, timberman, was with the rescue team that descended the pit with Mr. Louie, the manager. They went down Owen Davies' slant about two hours after the disaster, to Moses Sprangley's stall where they found the body of John Jones and Lloyd picked up his lamp and gave it to Samuel Thomas. The party made a complete search and several bodies were found.

William Pickard of Ince, Wigan was allowed to make an inspection of the pit after the explosion and he said that he saw two blowers but could not account for the explosion. He agreed that the mine was well laid out and the Sir George Elliott had spared no expense for the safety of the mine. He suggested that the flow of water in the upcast shaft be stopped.

The Coroner summed up and the jury brought in the following verdict-

"We find that Samuel Jenkins died from the effect of an explosion of firedamp in the New Tredegar Colliery and we are of the opinion it was caused by an accumulation of gas in Owen Davies' slant at the entrance to Moses Sprangley's stall from the blowers in the immediate district but there is no evidence to show how it was ignited.

We recommend that the day fireman inspect the workings and make a report in the book before the day men enter the workings and stricter discipline be insisted on by the manager among his subordinate officials and the work on the ventilation recommended by Her Majesty's Inspector be completed as soon as possible".

Mr. Brough commented that both the verdicts were in such terms as to be incapable of any other interpretation as 'Accidental Death'.

LLAN. Cardiff, Glamorganshire. 6th. December, 1875.

The colliery was the property of Messrs. T.K. Booker and Company Limited and was about six miles from Cardiff. It worked the Hard Vein, Bras Vein and Forked Vein coals which were reached by a drift from the surface which ran for 700 yards into the mountain and sloped at an angle of thirty degrees and intersected these seams at different points. The men walked down the mine after having their lamps checked at the surface. Those who worked in the upper seams carried naked lights but the Bras Vein was known as a fiery seam and there was a regulation that naked lamps were permitted only in the heading. The colliery was ventilated by fans which blew air down the incline so the men seldom worked with naked lights.

The explosion occurred in the Bras Vein, in which the workings were only of a limited extent owing to the number of faults that had been encountered and at the time there were only nine men working in this seam. It was not regarded as a fiery seam and over a considerable period of time, gas had been encountered in only two places and when the gas was found measures were taken to allow the men to work with naked lights.

Two exploring levels had been driven and since the coal was not of good quality it was decided to abandon them and work out the pillars. When this was done, the roof began to fall and the airway which took the air to the faces was neglected and became so bad that it could not be travelled. As a consequence no air reached the face. The ventilation was not only defective in the quantity of air that was reaching the faces but the Inspector thought that the method in which it was distributed was '*of the worst possible kind.*' He commented-

"Instead of conveying the fresh air to the lowest point, and allowing it to ascend as it became rarefied by the heat of the mine, it was taken into the workings at the highest point which

necessitated the gas being forced downhill. Such a system, of ventilation always conduces to accumulations of gas in different parts, and especially in the elevated parts of the colliery.”

The manager had been at the post only a few weeks and at the inquiry stated that he was not aware of the bad state of the road. The Inspector commented that it was a pity that he had not inspected it himself. The manager stated that he had drawn the attention of the overman, who was his superior, to the situation and the overman had always replied, that as they were only working the pillars, the air was sufficient. The overman was among the 16 who lost their lives.

The pit employed 300 men and boys and they did not enter until the overman had given the signal that all was clear. On the morning of the explosion only about 150 went down the mine at 6.30 a.m. and the enginemen worked drawing coal and the officials checked the tubs as they came to the surface. All went well until suddenly, about 9.30 a.m., three men rushed out shouting for help and saying that an explosion had occurred in the Bras. Men and boys continued to come out for some time and it was not known exactly what had happened.

An anxious crowd gathered at the mouth of the pit and Mr. Edwards, the manager was informed and tried to get down the pit but the atmosphere was very heavy. They managed to get in to find that there had been an explosion.

They found that Abraham Phillips, the overman had been thrown against the sides and was dead. They found some men and boys who had been injured, including two colliers named Edwards and Evans and they were brought to the surface to be tended by the doctors that had arrived. Others were found so badly burned that were said to be burnt to a cinder.

Those who lost their lives were:-

William Llewellyn, wife and 3 children.

Moses Llewellyn, a boy.

Thomas Llewellyn jnr., single.

Thomas Llewellyn sen., wife and 4 children.

Robert Taylor, single.

Daniel Evans, wife and child.

John Thomas, single.

John Pritchard, single.

William Peters, wife and 2 children.

Abraham Phillips, overman, wife and 6 children.

Henry Slant, left a wife and 4 children.

All were all burnt and suffocated. David Rees , a boy, was killed by a ventilation door being blown on him which caused massive head injuries.

Four other workmen who were rescued alive were reported to have died within two weeks but their names are not recorded.

The injured were:-

Shadrach Davies,

Evan Davies,

Samuel Evans

John Flym,

William Harding and

Abraham Williams.

The inquest was held by Mr. Rees and the jury returned the verdict that-

“Henry Smart died of chokedamp from an explosion at the colliery on the 6th. How the explosion occurred we are not agreed but the deficiency in the ventilation had been shown and we recommend more vigilance in the future.”

SWAITHE MAIN. Barnsley, Yorkshire. 6th. December, 1875.

The Swaithe Main pit was between Barnsley and Sheffield and owned by Messrs. Mitchell and Company and was one of the largest collieries in the country. The downcast, which was also the drawing shaft was thirteen feet six inches in diameter and sunk to a depth of 320 yards. The upcast shaft was twelve feet nine inches in diameter and sunk to a depth of 225 yards and was the furnace shaft. The distance between the two shafts was 68 yards. The colliery was connected by an inclined plane to the Edmunds Main Colliery and was the means by which seventy to eighty men were saved. The coal seam worked, was the Barnsley Nine Foot coal and was known to be exceptionally fiery. This particular pit had not known to be dangerous and the pit was worked by locked safety lamps.

At the Swaithe pit there were some 300 men and boys employed but on that Monday a large number of the workforce were not at work. Two hundred and forty men and boys went down the pit at the usual time and there was nothing to tell that the pit was likely to fire. In the explosion 143 lives lost and it was the most disastrous explosion in the district since the Oaks explosion.

The explosion took place about nine forty and those on the pit bank heard a loud report and the usual rush of gas up the shaft but the disaster at first was not fully understood.

Exploring parties were quickly formed and consisted of John Mitchell, George Hall and Edward Williams and they found that the bottom nine feet of the conductors at the bottom of the shaft had been destroyed and the remainder of the descent had to be completed by an improvised ladder. They found the full force of the explosion in the south level in which everything connecting with the workings had been destroyed. Two hundred men were working down the incline from the Swaithe Main pit eastwards on what was known as the South level and the remainder worked in the incline which ran from the bottom of the Edmunds Main shaft a distance of about a mile to the surface but somewhat less underground.

When the explorers reached the bottom of the shaft they found a few of the men who had escaped the force of the blast they were in a maniacal condition and had become insane from the effects of the gas and terror. They had to be held down and pinioned when they were slung in blankets and out into the cage. The hanger-on was found in the pump hole into which the explosion had hurled him. He was badly injured and promptly sent to the surface. The exploring party had to retreat because of the afterdamp and one or two of the explorers were overcome and they decided to retreat to avoid further loss of life.

In the meantime they found that 70 to 80 men had escaped up the Edmunds Main shaft and there was great rejoicing as a result.

There was a consultation at the surface between Mr. John Mitchell jur, Mr. Joseph Mitchell certificated manager, Mr. Miller Mr. Day, John Mitchell sen. and others. As they consulted the plans of the colliery they came to the conclusion that 120 men had been lost. During the day 16 men and boys were brought out of the pit alive.

In the evening the operations underground were under way and the body of James Allen the underground manager was found. Carpenters were set to work mending the conductors and the signal rope was also out of order by the explosion. As soon as the work was done one of the mining secretaries Mr. Casey but work had to proceed so cautiously that by 7.30 p.m., only three more bodies had been found.

The delay was to prove the safety of the north level before going on with the recovery of the dead. That this was necessary was proved by the fact that some of the early exploring parties had found that the coal was on fire about 300 yards from the pit bottom. However the fire was speedily extinguished. This was a great worry to the rescuers since in the explosion at Edmunds Main in 1862 the coal took fire and the colliery had to be flooded.

On the engine plane the explorers found two men alive and sent them out and further up they found two or three bodies. The parties separated and agreed to meet at a specified point but there were falls of roof and while they were considering what to do a note came for the Inspector and they went to the surface and reported. It appeared from a statement of a deputy that he went to the Edmunds Main shaft after the explosion. There were fifty colliers in that part of the pit and all but

two escaped with their lives. He got as far as the two bodies in his efforts to help when he was overcome by the afterdamp and had to be assisted out of the pit.

Mr. Robert Miller, who lived at Strafford Colliery, Dodworth, and he gave a factual and moving account of the rescue work that went on at the mine immediately after the explosion. He had not been down this pit before and went down with Mr. James Wilson, of the Oaks Colliery, and Joseph Sheldon, a deputy at Swaithe Main together with fifteen or sixteen men. When they got within eight feet from the bottom of the shaft, they found it made up with debris and water was falling down. There were corves and broken conductors and the occupants of the cage had to scramble over a man's shoulder to get out of the cage. The first thing that they saw, was a young man, named Crossland. When they touched him he said, *'You are killing me.'* He appeared to the rescuers to be very bruised but not burned.

The party examined the returns and the separation doors appeared to have been blown down. They followed a smell of fire to the north return but after going about twenty yards, they returned to the pit bottom. After returning, they went down the engine plane to the end of the slant level and found a man alive. His name was Brown, of Stairfoot, but was unconscious and unable to move and he died later. They then divided themselves into three parties under the command of Robert Miller, Mr. Wilson and James Sheldon. The next day Miller saw Sheldon's body after coming out of the pit.

Wilson's and Miller's parties went to Brigg's siding and Sheldon went to explore the slant as far as he could get because he knew the place. They found a lot of bodies in Brigg's siding and about twenty yards from the bodies, a human foot was picked up. They then went down the engine plane and found four more bodies. After going on a little way, they heard a human voice. The party listened and distinctly heard a man screaming. They hurried on and found man named Pickering who was not conscious and jammed against a post. He was sent out of the pit, but later died from his injuries. Mr. Wilson along with Schofield, the deputy, and two or three men, went through the drift but they found that there was a fall of roof about half way along. Three men went to to the No.3 district and Miller went along to the No.4 level in the No.3 district and up the drift to the level. They passed several dead horses and several bodies. When they reached the No.4 level, they met Wilson's party and Wilson agreed to go down the engine plane, Brigg's siding and the boundary board and Miller to go along the No.4 level until they met again at the boundary board.

One of Miller's party was taken ill and had to be sent out of the pit and they found a heavy fall of stone from the roof in the No.4 level. Also in the No. 4 level, they found a body which was naked and badly burned. Just beyond there were two bodies of boys who were burned as were all the other bodies that were found in this part of the pit. They then went to the engine plane where they met a man with a fire extinguisher who said that Wilson had discovered a fire. He examined the returns and then went to the surface after being below ground for two hours. Shortly after three o'clock, he had a conference with Mr. Wardell, the Inspector, and Mr. Mitchell, the owner of the colliery and others. In the meantime Wilson's party came out of the pit.

Miller went down the pit again about noon on the following day and was placed in charge of the operations since Mr. Mitchell had been taken ill. He went to the pit-bottom to see the situation below for himself and on his advice and instructions men were sent to repair the damage and to search for the bodies. He went, with a party, along the No.4 drift and on his way, he found a broken lamp hanging on a prop but there was no fall of roof nearby and no fire marks on the prop. The bodies were twenty yards away from this place and there was afterdamp present. In the first No.4 level they found a man, who was badly burnt, and there was evidence that shot had been fired in this place but it had only partly blown down the coal. The party were satisfied that after the shot had been fired, a corve was filled, indicating that the shot had not fired the gas and the man's lamp was found covered with coal and not broken. Mr. Beaumont, one of the party was taken ill from the conditions that were in the pit and he was taken out by Mr. Miller.

On the following day, he was down the pit again but this time he was giving orders at the bottom of the shaft to supervise the work that was going on in the pit. Two men, Thompson and Pearson, brought a can of powder to him that they had found in Eyre's place in the No 4 level. They had found two bodies near the gate and a heavy fall of roof close to them. They got over the fall and found another beyond it which was almost connected to it. They got over this and and found that the

edge of a corve had been driven into the fall and a body face forward driven in after the corve and another a little further on which had been blown from the goaf. His face had been driven against a rail and had been completely smashed in.

When they reached the other side of the falls, they found several props lying about and the bodies of several wood-takers. They came to the conclusion that these men had been taking wood at the time of the explosion and that was why the falls was so heavy. The bodies of the two wood-takers were found twenty yards from the goaf and on making their way to the pit bottom they came to the conclusion that the blast had come out of the goaf, as if that had been the centre, and then gone in all directions. The assumption was that the gas had been liberated by the wood-takers, taking down roof.

The area of the goaf was about twelve acres and the force of the explosion was apparent around the goaf, with all the doors blown in one direction, except in Brigg's siding. From there, the blast had gone with terrific force, killing all the men and boys and horses in it's path and tearing down brattice and air-sheets. Judging from the evidence, there had been two explosions, both of great force, which had made a circuit of the pit.

On Thursday, when he had been down the pit they had tried to get into the far returns where Sheldon had died. They passed the place where he had been overcome and died and got back to the pit bottom. The last time he had visited the pit, was last Tuesday with the Inspector.

A great number of surgeons were on the spot but their services were of little avail for the greater part of the day nor was the temporary hospital of little use. A large police force was present and did a good job in keeping the great crowds of people back from the pit head. On Tuesday the exploring parties found 34 bodies and one of them showed signs of life but he died an hour after being brought to the surface. The work of bringing the bodies took the whole of Wednesday and Thursday nights. By Wednesday 90 had been recovered. In many cases the identification was difficult. The death toll was rising all the time and by Wednesday afternoon had risen to 101 but the total number of deaths had not then been ascertained.

'In Sorrowful Remembrance of the men and boys who fell victims to the Terrible Explosion on the 6th .December 1875 at the Swaithe Main Colliery Near Barnsley.'

From Swaithe-

James Allen aged 32 years. Married with four children.

George Banks aged 38 years Married with nine children.

Thomas Beevors aged 47 years. Married with one child.

James Denton aged 32 years. A married man.

John Gilbert aged 20 years. Married with one child.

John Goodall aged 48 years. A married man.

Charles Goodman aged 19 years.

Charles Harrison aged 13 years.

Henry Jaques aged 27 years. Married with two children.

Thomas Scolah aged 31 years a married man with a child.

John Semley aged 17 years.

Joseph Sheldon aged 43 years a married man with three children.

George Sykes aged 25 years a married man with two children.

Henry Charles Vine aged 20 years a single man.

John Waterworth aged 30 years a married man with five children.

From Barnsley-

Frank Allen aged 18 years.

William Allen aged 19 years a single man.

Henry Ackers aged 25 years. A married man with two children.

James Blackburn aged 45 years. A married man.

William Bray aged 24 years a married man with three children.

John Brown aged 36 years. A married man with five children.
William Buckley aged 33 years a married man with a child.
J. Calvert aged 27 years a married man with two children.
William Carr aged 40 years a married man with five children.
Alfred Crackles aged 24 years married with two children.
J. Dolan aged 29 years married with three children.
Arthur Dunk aged 20 years a married man with one child.
George Evans aged 17 years. Unmarried.
William Goodliff aged 22 years. A married man.
Thomas Lund aged 24 years a single man.
Henry Malin aged 22 years. A married man.
Thomas Markey aged 25 years a married man.
Henry Marsden aged 25 years. Married with one child.
Robert McNaught aged 40 years a single man.
James Muldoon aged 31 years married with three children.
Willima Oates aged 45 years a married man with five children.
George Philipson aged 30 years a single man.
John Pickering aged 23 years married with one child.
T. Rider aged 16 years.
A. Rock aged 23 years single.
J. Sedgwick aged 31 years married with four children.
Henry Stott aged 17 years. Unmarried.
James Temperley aged 34 years married with five children.
Walter Whitham aged 19 years unmarried.
John Wood aged 19 years unmarried.

From Hoyle Mill-

Henry Grant aged 55 years married with six children.

From Cliff Bridge-

William ??? aged 43 years married with six children.

From Worsbro' dale-

Henry Wm. Bailey aged 20 years a single man.
William Bamforth aged 20 years a single man.
Gad Barden aged 43 years married with five children.
Benjamin Bennett aged 29 years married with three children.
Pharaoh Bostock aged 14 years.
Alfred Bower aged 14 years.
Edwrad Bower aged 12 years.
Isaac Bullock aged 29 years a single man.
Edward Geo. Carr aged 24 years married with one child.
Thomas Coxon aged 18 years.
Thomas Carrersal aged 24 years married with no children.
Joshua Eyre aged 22 years married with one child.
William Earnshaw aged 32 years married with three children.
John Gibson aged 14 years.
Alfred Gilbert aged 21 years married with three children.
Edwin Glover aged 19 years.
William Greenbank aged 27 years married.
George Halmshaw aged 14 years.
Albert Harrison aged 14 years.
Jura Herod (Pole) aged 29 years married with one child.

William Hudson aged 30 years married with no family.
Paul Kendal aged 49 years married with six children.
Paul Kendal aged 15 years.
Wm. Geo, Kendal aged 17 years.
Thomas Kilburn aged 29 years married with one child.
Fred Kilburn aged 29 years married with one child.
Andreas Konnuck (Pole) aged 33 years married with three children.
Israel Lambert aged 19 years Unmarried.
Thomas Lancashire aged 24 years married with no family.
William Laughton aged 17 years
Thomas Maltby aged 24 years married with one child.
Charles Morton aged 20 a single man.
Joseph Morton aged 20 yeas a single man.
Joseph Noble aged 38 years married with three children.
Arthur Netherwood aged 18 years a single man.
John Nicholson aged 17 years a single man.
John Edward Philips aged 18 years.
Edward Semeley aged 17 years.
Amos Semley aged 14 years.
George Slater aged 20 years a single man.
Richard Slater aged 20 years a single man.
Richard Smith aged 29 years merried with three children.
John Thomas Smith aged 17 years.
William Smith aged 30 years married with eight children.
John Stowroski (Pole) aged 44 years married with four children.
Thomas Watson aged 16 years
Joseph Watson aged 18 years.
Robert Wilkinson aged 20 years
Joseph Winder aged 21 years unmarried,
Thomas Woodhead aged 29 years a single man.

From Hoyland Nether-

John Bailey aged 25 years married with two children.
Samuel Hague aged 35 years married with two children.

From Worsboro' Common-

George Armitage aged 52 years married with five children.
James Barraclough aged 30 years married with four children.
Henry Bell aged 16 years.
Henry Cawthorn aged 22 years a single man.
Charles Henry Cullumbine aged 16 years.
Leonard Galloway aged 16 years.
James Green aged 43 years a single man.
Joseph Harrison aged 19 a married man.
John Heppinstall aged 46 years married with one child.
Thomas Lockward aged 50 years married with four children.
Walter Lockwood aged 16 years
James McCulloch aged 17 years.
Jos. Mowbery Robinson aged 19 years.
William Charles Tyas aged 20 years a single man.
William Walter aged 16 years.
John Waller aged 14 years.
George Wildsmith aged 19 years a single man.

From Stairfoot-

J. Benson aged 14 years.

William Brown aged 19 years.

A. James Hancock aged 34 years married with four children.

John Jenkins aged 26 years married with two children.

Samuel Schofield aged 35 years married with four children.

William Walker aged 29 years a married man.

From Measbro' Dyke-

John Christian aged 32 years married.

Thomas Foster aged 29 years married with two children.

J. Partlett aged 19 years married with one child.

From Blacker Hill-

Joseph Dodson aged 32 years married with two children.

George Fawcett aged 29 years married with four children.

Franter aged 23 single.

Edward Jenkins aged 21 years a single man.

William Jenkins aged 25 years married with two children.

Fred J. Moore aged 26 years married with three children.

From Platts Common-

Samuel Green aged 27 years married with four children.

Charles Hall aged 24 years a single man.

Charles??aged 26 years married with three children.

From Jump.

Levi Thickett aged 18 years.

From Woombwell-

William Nettleship aged 23 years married with two children.

William Rodgers aged 32 years married with one child.

Fred Holt Waldie aged 21 years married with one child.

From Darfield-

Thomas William Senior aged 17 years.

From Swaithe

James Allen 32

George Banks 38

Thomas Beevors 47

George Beresford 53

James Denton 32

John Gilbert 20

John Goodall 48

Charles Goodman 19

Charles Harrison 13

Henry Jaques 27

Thomas Scolah 31

John Semley 17

Joseph Sheldon 43

George Sykes 25

Henry Charles Vine 20

John Waterworth 30

From Blacker Hill

Joseph Dodson	32
George Fawcett	29
J Tranter	23
Edward Jenkins	21
William Jenkins	25
Fred J. Moore	26

From Darfield

Thomas William Senior	17
-----------------------	----

From Barnsley

Frank Allen	18
William Allen	19
Henry Ackers	25
James Blackburn	45
William Bray	24
John Brown	36
William Buckley	33
J. Calvert	27
William Carr	40
Alfred Crackles	24
J. Dolan	29
Arthur Dunk	20
George Evans	17
William Goodliff	22
Thomas Lund	24
Henry Malin	22
Thomas Markey	25
Henry Marsden	25
Robert McNaught	40
James Muldoon	31
William Oates	45
George Philipson	30
John Pickering	23
T. Rider	16
A. Rock	23
Edward Rose	23
J. Sedgwick	31
Henry Stott	17
James Temperley	34
Walter Whitham	19
John Wood	19

From Worsborough Common

George Armitage	52
James Barraclough	30
Henry Bell	16
Henry Cawthorn	22
Charles Henry Collumbine	16
Leonard Galloway	16
James Green	43
Joseph Harrison	19
John Heppinstall	46
Thomas Lockwood	50
Thomas Lockwood	16
James McCullough	17
Joseph Mowbery Robinson	19
William Charles Tyas	20
William Walter	16
John Waller	14

George Wildsmith 19

From Stairfoot.

J. Benson 14

William Brown 19

A. James Hancock 34

John Jenkins 26

Samuel Schofield 35

William Walker 29

From Measborough Dyke.

John Christian 32

Thomas Foster 29

J. Partlett 19

From Platts Common.

Samuel Green 27

Charles Hall 24

Charles Taylor 26

From Nether Hoyland

John Bailey 25

Samuel Hague 35

From Cliff Bridge

William Tyers 43

From Hoyle Mill

Henry Grant 55

From Wombwell

William Nettleship 23

William Rodgers 32

Fred Holt Waldie 21

From Jump

Levi Henry Thickett 18

From Worsborough Dale

Henry William Bailey 20

William Bamforth 20

Gad Barden 43

Benjamin Bennett 29

Pharaoh Bostock 14

Alfred Bower 14

Edward Bower 12

Isaac Bullock 30

Thomas Bullock 30

Edward George Carr 24

Thomas Coxon 18

Thomas Carrersal 24

Joshua Eyre 22

William Earnshaw 32

John Gibson 14

Alfred Gilbert 21

Edwin Glover 19

William Greenbank 27

George Halmshaw 14

Albert Harrison 14

Jura Herod 29

Alfred Hoyland 29

William Hudson 30

Paul Kendal 49

Paul Kendal 15

William George Kendal	17
Thomas Kilburn	29
Fred Kilner	14
Andreas Konnuck	33
Israel Lambert	19
Thomas Lancashire	24
William Laughton	17
Thomas Maltby	24
Charles Morton	20
Joseph Nobel	38
Arthur Netherwood	18
John Nicholson	17
John Edward Philips	18
Edward Semeley	17
Amos Semley	14
George Slater	20
Richard Smith	29
John Thomas Smith	17
William Smith	30
John Stowroski	44
Thomas Watson	16
Joseph Watson	18
Robert Wilkinson	20
Joseph Winder	21
Thomas Woodhead	29

At the adjourned inquest into the deaths at the colliery Barnsley Court House Mr. T. Taylor, Coroner. The proceedings were attended by Mr. Lake, Q.C. attended to watch proceedings on behalf of the Home Office, Mr. Melor Q.C. appeared on behalf of Mr. Mitchell, certificated manager of the colliery. Mr. Shaw watched the inquiry on behalf of the mine owners, Mr Hopwood Q.C., M.P. appeared for the South Yorkshire Association and Mr. Parker and Mr. Rhodes watched the inquest on behalf of the relatives of the underviewers and deputies that had perished in the disaster. There is no record that the widows and orphans were represented at the inquest. A number of the owners of the collieries and mining engineers watched the proceedings with interest and the back seats held a sprinkling of colliers. Most of those present thought that the explosion had been caused by the firing of a shot. A canister containing less than a couple of pounds of powder and a roll of fuse was found in the slant drift level. In this part of the colliery, the effects of the explosion were most severe.

Joseph Bennett, a deputy at the colliery, said on the morning of the explosion, Sheldon and other deputies had reported the pit all right and shortly after these men were killed. There had been gas in the pit for six weeks and the fact had been reported daily. He was in the pit on the morning of the explosion and a shot had been fired in Eyre's working place by one of the miners and soon afterwards he was in the jenny he noticed a rush of wind and the afterdamp which was so bad that he had to crawl on his hands and knees. He eventually escaped through the Edmunds Main shaft although he was nearly suffocated. Gas had ignited on the south drift level a year ago from a shot but since then no shot had been fired in the district until the men had been withdrawn. Other evidence was given to show that the explosion did not occur until three quarters of an hour after the shot had been fired and it was the witness impression that the shot had done no harm.

The men were allowed to take powder into the pit for blasting purposes but not more than 11b. and he had never heard of miners having 5lbs. of powder in their possession although drifters were allowed to use as much as was required in their judgement. John Godfrey, an underground labourer, was in the pit in the morning of the explosion when his lamp was blown out by the wind and he tried to make his way to the bottom of the pit but the engine plane was filled with afterdamp and he had to go back along the travelling road and reached the shaft with great difficulty.

The inquest was adjourned and at that time 120 had been recovered. One of the first mining engineers to arrive on the scene was Mr. J. Hunter who had been the manager of the Seaham

Collieries and was now manager of the Worsborough Park Collieries and was with Mr. Miller of the Strafford Main Colliery one of the first party of explorers.

Evidence was heard from the men who had worked in the mine and this gave some indication of the state of the colliery and the work practices that were used. One witness was Robert Schofield who was the afternoon deputy on the day before the explosion. He was accompanied by Bostock to the slant drift level where the latter said he had found a canister of gunpowder. The canister was well corked and secured and it was found before the debris was removed but he could not say whether the canister was battered at all. He believed the men had been working at the face of the coal at the time of the explosion. No men were working in the No.8 far gate at the time of the explosion, as far as he could remember.

Johnathan Bostock, a day labourer, was the next witness to be called. He had found a breakfast box with Ackers' name on it and the canister with fuse and powder in it. He found no traces of a shot being fired. John White, a collier was down the pit at the time of the explosion but he did not hear it. He was told that the pit was on fire. He went down the slant and clambered over falls that had occurred there. He escaped through the Edmunds Main shaft. George Coleclough, a coal getter, said that there was nothing wrong with the pit on the Saturday night. Allen, the underviewer, had spoken to him about blowing the coal down because it was harder than the rest. Allen had said, "*You must have a shot or two whilst you get through the worst of it.*"

George Simmons, the lamp-man, produced a canister and a fuse that he had taken to the magazine. The powder in the canister was coarser than that supplied at the colliery and he was not aware that a man could take any quantity of powder into the pit without being questioned. Charles Radley, a collier, said that he could not take powder into the pit as he liked.

An account of the state of the pit after the explosion was given to the inquiry by George Beardsley, a deputy, who was in charge of the No.1 district nearest the Edmunds Main workings at the time of the explosion. He did not hear the explosion and knew of it until 10 a.m. When he was told by a hurrier named Walton. He was on the Swaithe levels at the time and he went with Walton, two hundred yards down the brow until they could go no further because of the afterdamp. They returned to the north level and told Walton to fetch the men and boys from the north levels.

After sending them up the Edmunds Main shaft, he returned to the border jenny and found the afterdamp had got to one hundred yards higher than it was before. He then went back to two separation doors which divided the workings of the two collieries and opened them, in the hope that air could come from the Edmunds Main pit to the boundary jenny. This was successful and it took about ten to fifteen minutes for the air to clear. He got to the foot of the level where he saw White and Pearce, a hanger-on, and sent them out through the Edmunds Main shaft. He then went down the level and found the afterdamp so strong that he had to get water to revive himself. He tried to improve the ventilation further and found the body of John Waterworth, a deputy, lying on his face two hundred yards below the double doors. He was lying on his face and appeared to have been suffocated as if he had been trying to get to the boundary board. A few yards further on he found the body of Henry Cawthorne who also appeared to have been suffocated.

He went on to the jenny and found a horse, which had almost been blown to pieces and two stoppings had been blown out but they did not interfere with the passage of the air. Later he found the body of Thomas Bullock who was lying ten yards from the horse. Near the bottom of the jenny, they found the body of George Sykes, the horse-driver, but the afterdamp was so thick that they could not see if he had been burned or not. He did not bring out any of the bodies.

The following day about 10 a.m., he went down with William Ward of the Manvers Main Colliery round the workings where they did not find any bodies but on going through the boundary doors they found the bodies of two brothers named Allen but he could not tell if they were burned because they were all covered with dust. They then went to the bottom of the return airway and then out of the pit. At 6 p.m. he went down again with William Ward and others, with the object to fetch out the bodies. The following afternoon he went down again. At the inquiry he was questioned by Mr. Mellor. He said he had been a deputy at the colliery for four years and he had known James Allen for seven years and four of those he had been a deputy and was a good competent man.

He was questioned further about a conversation in June 1874, on the subject of shotfiring in the No.4 district. He related the story of the discussions. Allan and Jaques and other deputies were present and it was decided that no shots were to be fired until after 2 p.m. Allan, Farnshaw and Jaques were present and all were now dead, killed in the explosion. To his knowledge, Allan had never made any alteration to the rule and before any alteration was made, it was customary for the deputies to meet Mr. John Mitchell was also present at the first meeting.

While exploring the pit, Beardsall found Parfitt's body in his working place in Briggs siding and the number of his 'motty' was 23 but he could not account for his motties being found in the chock or he had no business there. There had been falls in the No.8 gate and the No 5 dip board but the first mentioned was the heaviest. Parfitt and Bailey were also found killed in their working places.

Evidence was then taken for the purchasing of powder at an iron mongers in Sheffield and the difference in quality to that used in the pit and the entries in the powder book of the colliery which should detail all the powder and fuse employed in the mine.

William Midgely the deputy at the Swaithe Main Colliery stated that he was in duty in the pit up to 6 a.m. On the morning of the explosion. When he left everything was in good order. At 5 a.m. He signed the night report book with an entry as follows, '*All the working places, travelling roads and air courses have been carefully examined by me,*' but he omitted to say that he had been found in the North No.4 working place. On the Tuesday after the explosion he went down the pit with others to put up some sheeting to divide the intake air from the return air. In the afternoon, he assisted in getting John Nettleship out of the pit he was found at the bottom of the No.5 board on the slant level and was quite conscious. The first thing that he said when he was found was '*Now Billy lad, I am dry.*' He was given tea and a little brandy but he could not stand or raise his arms and they had to carry him from the pit. It had been stated that Nettleship had said, '*That will be the last shot fired in the pit.*'

Mr. Charles Beevers, the manager of the Higham Colliery at Dodworth, said he had no knowledge of the colliery before the 6th. and he went down about 4 p.m. on that day. He was with the party that found Nettleship and he was badly burned. He rambled occasionally but was generally lucid and he was asked if he knew what had happened he did not say that he had seen a blaze and as to the cause he said, '*You'll see no more shooting here.*' He was then asked if there had been any shots near him, '*No. But I know that there was some shooting going on.*' In his opinion the force of the explosion was in the No.8 gate where there was a large fall of coal twenty yards long. He had gone down the pit the Tuesday after with the Inspector and found shot ready for firing with a fuse attached in the No.4 dip level and at the bottom of the level he found a shot hole drilled. Corves had been broken and jenny wheels smashed and blown in the direction of the return air.

When they were exploring Brigg's siding they found gas, firedamp where many props and supporting timbers had been smashed and the props were charred. From what he had seen he was of the opinion that there had been two explosions one in the No.5 and one in a pillar between Nos. 5 and 6.

At the resumption of the proceedings on Tuesday morning the first witness was a widow who identified the body of her late husband. At the inquest Mr. Robert Miller was questioned about possibility of drawing off the gas from the goaf but he said he could not see this being possible particularly if the gas had accumulated quickly and the twelve acres of goaf might contain 300,000 to 400,000 cubic feet of gas.

As to the cause of the ignition of the gas, it was thought that the concussing of the fall could have driven gas through the gauze of a lamp and caused the ignition of the gas. He was asked which type of lamp he thought was the safest and he recommended the Stevenson lamp for men and deputies and not the Davy lamp. He was also questioned about blasting in mines in the Barnsley and Silkstone beds and he thought it was imprudent to do so when men were in the pit.

Mr. James Wilson, the resident of the Oaks Colliery and lived at Stairfoot, knew the colliery before the explosion and in addition to the evidence given by the last witness he gave an account of the death of Sheldon. He saw him at the junction of the double three suffering from the effects of afterdamp and he appeared to be very excited. He said, '*It is over hard my son is in the pit and I expect he is dead.*' A note came later for Sheldon saying that his son was at home but it arrived after

his death. He thought that it was useless using locked lamps in a pit when shots were fired in the coal. It was like leaving a naked light in the pit. Shots had not been fired in the coal at the Oaks Colliery for nine years.

Joseph Bennett, of Calker Lane, Worsborough Dale, a deputy viewer at the colliery gave further evidence of the ventilation of the colliery. It was worked by lamps. Mr. W. Rayne, clerk to the colliery, produced the report books of the Deputies.

The Coroner made a lengthy summing up and the jury retired to consider their verdict and deliberated for about two hours. They returned and the foreman delivered the following verdict:-

“The jury find that Thomas Blackburn, James Allen and others came to their deaths at the Swaithe Main Colliery by an explosion or explosions of firedamp but how such explosion or explosions originated there is not sufficient evidence to show we are likewise of the opinion that according to the evidence the Swaithe Main Colliery of a fiery mine and that the general and special rules have not been rigidly carried out and that gunpowder has been recklessly used. The jury are also of the opinion that in all mines where safety lamps are used the use of gunpowder should not be allowed except in stone drifts, and there only when the miners are drawn out. The jury desire the coroner to forward this opinion to the Secretary of State. We also regret that the miners have not carried out General Rule 30, and think that this rule should be strictly adhered to.”

The jury was then discharged and the proceedings concluded.

METHYL JUNCTION. Normanton, Yorkshire. 9th. December, 1875.

The colliery was the property of Messrs. H. Briggs and Son, and the explosion claimed the lives of six people. There were two shafts, a downcast eleven feet in diameter and an upcast nine feet six inches in diameter. The accident occurred in the Haigh Moor seam at the colliery at a depth of 135 yards. The colliery was ventilated by a fan 35 feet in diameter and the Report Book indicated that 55,000 cubic feet of air per minute were passing through the mine when it was last measured before the disaster. It was the practice at the colliery that the men went down with safety lamps but substituted candles later in the shift.

The explosion happened in a part of the colliery called the No.4 South Ending where five benches were being worked by 26 men and boys. The Inspector was of the opinion that the gas was ignited at the face of the No.5 bank and the effects of the explosion affected only a limited area. The deputy visited the place shortly before the disaster and at that time there was no evidence of weighting of the roof but immediately afterwards there were unmistakable signs that this had taken place. The gas from the resulting fall was thought to have been ignited at an open candles.

The man nearest to the No. 5 bank was working with a lamp and this was found to be locked and in perfect order. A very short time elapsed before the bodies were recovered from the mine and the ventilation was restored.

Those who died were-

Thomas Thompson,
Alfred Anson,
James Inman,
oanes Husson,
Samuel Stirland and
Thomas Smethurst.

Mr Wardell, the Inspector, examined the scene of the explosion and he came to the conclusion that it was caused by a fall of roof and as naked lights were used in the mine, it was difficult to find the cause of the ignition. He recommended that the mine should be lit only by safety lamps.

The jury deliberated for a quarter of an hour before returning a verdict of ‘Accidental Death’.

