

CHOWBENT. Gib Field Pit. Atherton, Lancashire. 11th. February, 1850.

The colliery was the property of Mr. Fletcher. The colliers had descended to their work, discovered gas in one of the bays and proceeded to try to sweep it out with their jackets. Unfortunately a lighted candle had been left and the gas fired at the flame causing the explosion which killed five and burned many others.

Those who died were-

T. Green aged 20 years,
R. Seddon aged 41 years,
J. Wilde aged 23 years,
J. Worthington aged 46 years and
R. Sale aged 29 years.

FOGGS. Haydock, Lancashire. March, 1850.

In March 1850 at Messrs. Evans and Turners Haydock Colliery, called the Rock Pit, thirteen men were killed and some of them described as burnt to a cinder. Eleven men were working in a drift 1,000 yards from the pit all of whom were burnt to death. Two others who were working 120 yards nearer the pit, on hearing the explosion rushed to the face instead of making for the pit and lost their lives.

The men were allowed safety lamps if they thought it was proper to use them but there does not appear to have been any restriction against candles though the men had to run away from a fire the day before the explosion.

Those who lost their lives were-

John Durdom and Ralph Durdom, father and son,
William Battersby,
William Knowles,
Ralph Unsworth and
John Unsworth, father and son,
John Glare,
John Holloway,
John Simm,
James Bailey,
Christopher Hesketh,
Thomas Glover and
Joseph Hatton.

The men were allowed safety lamps if they thought it was proper to use them but there was no restriction against them working with candles although it was said that some men had run away from the fire the day before.

An inquest was held and the following verdict returned-

“It so happened that the foul and inflammable air in the said coal mine by some means unknown to the jury accidentally, casually and by misfortune, took fire and exploded, whereby the said unfortunate men and boys were grievously scorched and burned upon the body and limbs, whereby they died instantly.”

TOWN HOUSE. Burnley, Lancashire. 12th. April, 1850.

The colliery was worked by Spenser Wilson and Company. Six men were killed in the explosion at Great Marsden and one of the men Steer, left the other five at the bottom of the shaft while he went into the workings with a safety lamp to see if it was safe. The others followed without waiting for Steer's signal and one of them, Brunton, took the top

off his lamp when the explosion occurred. The lamp with the top off was found next to Brunton's body.

Those who died were-

John CHADWICK, aged 24, leaves a widow and one child.

Joseph BRUNTON, aged 28, leaves a widow and two children. brother to William.

William BRUNTON, aged 19, unmarried. brother to Joseph.

Thomas WILSON, aged 28, leaves a widow and four children.

Robert HAWORTH, aged 26, leaves a widow and one child.

Thomas STEER, aged 50, widower.

Mr. Sayer, the agent said that the men took the tops off their lamps against the Rules and that in future anyone attempting to take off the top of their lamp would be immediately discharged.

WELLINGTON PIT. Unsworth, Durham. 5th. June, 1850.

The colliery was the property of Messrs. Jonasson and Elliott and was 1,080 feet deep and the ventilating current was 60,000 cubic feet per minute. Nearly 160 people were working at the time with naked lights when a large blower suddenly burst out of the Bensham Seam, throwing out large masses of coal and igniting at a candle. Four men were badly burned and others were made unconscious by the afterdamp. The disaster claimed the lives of twelve men and a boy and five were badly injured. There was hardly any damage to the workings reported.

Those who lost their lives were-

Robert Purdey.

William Purdey.

Thomas Hall.

William Nixon.

Hugh Holland.

Robert Story.

William Jobling.

George Ramsey.

George Blakey.

Thomas Clint.

George Green.

Those who survived were-

Andrew Clint.

Luke Shanks.

James Gilroy.

George Gascoyne.

An account of the disaster was given by William Mould, a deputy at the colliery who was underground when the accident occurred-

"I was in the pit when she fired at the south-west point, a little before nine o'clock. There were six men in that part of the mine and I felt a sudden slight shock and afterwards found that she had fired in the eastern most part. I came to a door which had been blown down and then proceeded to a place where a 'galloway' was standing across the teamed way and the fullway. Several men were there. I found the afterdamp, which was very strong and several of the bodies lay in that part and some were got out alive. The bodies were going out in about half an hour

and all that were dead in that part of had been killed by the afterdamp and had not been burnt. There were eight in that part and all had come from the same station and met the afterdamp. If that had remained in that district they would have been safe. After that I went to the place where she fired and five bodies were got out dead and were slightly burnt. She was sufficiently pure to travel in about half an hour after the explosion took place. The shock did not put out my candle but it went out when I arrived at the afterdamp. I have examined the part where she fired and a 'blower' has come off which was the cause of the accident."

After hearing all the evidence and the Coroner's summing up, they jury returned the following verdict-

"We are of the opinion that Robert Storey and twelve others came to their deaths by the firing of Usworth pit on the 5th inst. from a blower which moved the coal from the workings and ignited at a candle and that there was no want of ventilation or care to our knowledge."

COMMONHEAD. Airdrie, Fifeshire. 23rd. July, 1850.

On Tuesday nineteen descended to their work as usual about 6 a.m. and the fireman was with them and went forward to examine the state of the pit. There was a sudden terrific explosion which killed eighteen instantly and shattered the pit. Only one man escaped and he was standing at the pit bottom and threw himself down to allow the fire storm to pass. All the victims were charred and disfigured and all the precautions against firedamp had been neglected since the previous Saturday.

The disaster was made a subject of a law case and the sole survivor gave the following evidence-

"The fireman, each morning with a safety lamp, went round the workings and told the men where there was fire by writing on a shovel. When we saw the shovel we left our naked lights and went 'Waffed' the fire out with out coats we then took out lamps we made it quite clear by 'waffing' it. I have had to do this twice or thrice in a day, and it would take me about ten minutes. None of the miners had safety lamps. Some of the places were so foul that '*waffing*' would not do. The (ventilating) fire was not kept burning night and day, as it should have been. There was no person down the pit from Saturday till the Tuesday morning, the day of the accident. I went down as usual and saw my brother, who was the fireman, go in with a Davy lamp. At the ending, I heard my brother say, there was fire, and that my place was filled. He went to another place, and I observed that it fired the lamp. The explosions took place instantly, but not at his lamp."

James and John Seddon were charged at Glasgow County Court with culpable homicide.

COED POETH. Supposed to be S. Wales. 5th. October, 1850.

The men went down to their work as usual and found firedamp and immediately tried to escape but the explosion took place before they were out of the pit. Three were killed and two others were in a hopeless state from suffocation. The mine was ventilated in the usual way but the miners preferred to use naked lights in stead of lamps.

BENT GRANGE. Oldham, Lancashire. 9th. October, 1850.

The explosion took place in the Riley Mine, owned by Mr. Butterworth, which had a bratticed shaft, when about twenty five colliers were at work. A fall of roof occurred and broke the wire gauze of a Davy lamp with which the miners were provided. This caused the explosion and according to the report, Mr. Blackwell said seventeen lost their lives,

the Mining Almanac for 1851 said ten others were injured and Galloway gives the death toll as sixteen.

BAMBLING Bartholomew 12 Drawer
BRAMWELL 21 Drawer
BUTTERWORTH Edmund 40 left wife and five children
BUTTERWORTH 21 Married
DUNKERLEY Damiel 31 left wife and two children
FIDIHAM Robert 25 Left wife and two children
FOX Benjamin 34 Married Brother of Jonas
FOX Jonas 17 Drawer brother of Benjamin
GEARY Edward 32 Left wife and three children
JACKSON James 54 Married. No children
LEES William 32 Left wife and two children
MYTTON From Wigan been in Oldham a month
NEWTON George 19 Drawer
NEWTON John 19 Drawer
PARKIN John 13 Drawer and
STOTT John 14 Left wife and six children.

After the accident an air shaft was sunk and the colliery ventilated by a fan.

WILLINGSWORTH. Sedgley, Staffordshire. November, 1850.

The colliery was the property of Mr. James Bayley. The doggy had found gas in a particular part of the pit in the morning and had cautioned the workmen. His own son forgot the caution and took a lighted candle into the back stall in question. Five were killed in the resulting explosion and four others severely burned.

HAYDOCK No.13. Haydock, Lancashire. 8th. November, 1850.

The colliery was owned by Messrs. Turner and Evans. There were about twenty men and boys in the pit at the time of the explosion and four ponies. Ten were killed and several others injured. All the ponies were found to be dead. There was great difficulty in preventing the men from working with candles. At the inquest one of the men said they had never been told not to use candles. There was no regular examination of the mine in a morning and the appointment of a fireman was suggested and the locking of safety lamps. The accident was put down to gas coming from old workings and the Mining Almanac stated that eleven were injured. The Inspector's Report states that 4 men killed in an explosion in the Rushy Park Mine.

HOUGHTON. Houghton, Durham. 11th. November, 1850.

The pit was sunk by Thomas Crawford in 1828 and laid off in 1838 but re-opened in 1849. The shaft was 116 fathoms deep to the Hutton seam and was 14 feet in diameter. The pit fired between 5 and 6 a.m. when 150 people were at work in the pit killing twenty six men and boys. One hundred and fifty who were at work in the mine were rescued after hours of dangerous work and any of them came out of the mine unconscious. The men had remained about 400 yards from the shaft and most of the dead lost their lives trying to pass through the afterdamp to get to the shaft. Several others were burned and some of the victims were mutilated.

After the explosion the mine was inspected by Mr. Tremenheer and Mr. Foster, colliery viewer. The inquiry heard that John Rutherford, viewer of the colliery went down about twice a fortnight. The explosion was put down to the foolhardiness of a miner who

ignited some gas that had accumulated in an old working. Hunter, the overman, was killed. The verdict stated that-

“The explosion was caused by a naked lamp which had been negligently and improperly used by John Watchman, either contrary to orders given to him, or in consequence of the overman not having given him such orders.”

The local burial registers give the following names-

Buried November 12th.-

William Anderson aged 18.

Henry Anderson aged 11.

John Anderson aged 14.

Samuel Gardner aged 15.

George Gardner aged 13.

Buried November 13th.-

Thomas Morpson.

William Fairley aged 14.

Edward Fairley aged 17.

Abel Burness.

William Elliott aged 14.

John Watchman aged 25.

John Dixon aged 19.

James Anderson aged 42.

Thomas Artkinson aged 16.

John Bearney aged 15.

George Watson aged 12.

William Walker aged 17.

Buried November 14th.-

John Fenwick aged 22.

NEW DUFFRYN. Aberdare, Glamorganshire. 12th. December, 1850.

Mr. Powell's colliery was near Newport and had recently been opened out. The colliery was adjacent to the Letty Shenkin Colliery and the Old Duffryn Colliery in the Aberdare Valley where explosions had occurred. The workings were not extensive and were near the shaft. No preliminary drivage had been made with the result that there was gas in the workings. The ventilation was also dependent on a very large number of doors which were the only separation between the intake and the return air currents. It was also vulnerable to a sudden and complete stoppage by falls of roof which were very likely to occur.

The '*Cardiff and Merthyr Guardian*' reported-

“At about three o'clock this afternoon an explosion occurred in the New Duffryn Pit. At present all is confusion and consternation and people do not know what to say. It is said that there were about fifty four persons down the pit of whom only three have been brought up uninjured. But here comes the evil, the engine is broken and they cannot get down from the surface to render assistance to the poor fellows. Three of the men who were saved say that they were nearly suffocated in coming to the mouth of the pit and they give a very poor account of those behind. The agent of the colliery, Mr. Meredith, had only just gone down and he now shares the fate of those below.

The winding engine being useless makes me suppose the delay will prove a serious cause of danger as the only means of communication is now a bucket

wound by a crab and it takes half an hour to go up and down and then only very few can be brought up. The explosion was terrific for in this neighbourhood it is well known what such sounds signify.”

The explosion was put down to a sudden outburst of gas from the roof of one of the stalls when there was weighting of the roof. The whole of the mine was charged with firedamp at great pressure, ignited at a naked light.

William Jones was not underground and was killed by the force of the blast as he had been sent to get an axe and had to cross a bridge over the shaft. He was doing this when the pit exploded and his father saw the explosion send the whole pit top flying through the air. His son was crushed in the wreckage.

The *'Cardiff and Merthyr Guardian'* lists those who lost their lives as

Edmund Beard aged 22 years, hitcher, married with no children.

William Davies aged 17 years, son of John.

William Sanders aged 12 years, door boy, son of Daniel.

William Jones aged 17 years, sawyer, son of John. Killed at the top of the pit.

David Thomas aged 23 years, single. Died from the effects of the fire on the 14th.

James Morgan aged 20 years, collier. Died on the 14th.

James Burgam aged 24 years, collier, single, left a wife and three children. Died on the 16th.

Matthew Tingle aged 35 years, collier, left a wife and six children. Died on the 19th.

Those who were injured were-

Henry Jenkins, fireman, married with five children.

William Meredith, underground agent.

Thomas Meredith, collier, son of William.

Richard Wiggle, collier, married with five children two of whom were also burnt.

George Meredith, collier, married with five children two of whom were burnt.

Peter Price, collier, single.

John Ruck, collier, married with a child.

James Williams, collier, married with one child.

The *'Guardian'* does say that the injured were 'not fatally injured' but as the official total of victims ads 13, it is probable that some of the injured died later.

Another list records those who lost their lives as-

Edmund Beard aged 22 years

James Burgam aged 24 who left a wife and three children.

William Davies aged 17 years, haulier.

William Jones aged 17 sawyer.

James Morgan aged 20 years.

William Sanders aged 12, doorboy.

David Thomas aged 23 years, single.

Matthew Tingle aged 35 years left a wife and six children.

Those who survived the blast were-

Henry Jenkins, fireman,

William Meredith,

Mr. Powell's agent,

Thomas Meredith, son of William.

Peter Price,

George Ready,

John Ruck and

Richard Wiggle.

At the inquest held before Mr. Overton, the District Coroner, Harry Jenkins, the fireman said-

"The roof was breaking up and was likely to fall, Ruck, George Ready and several others were propping it up while I was engaged in culling a new air road. When we were so engaged, part of the roof fell and a blower came out against my candle and an explosion took place. I had been in the stall for only five minutes before and there was no gas then. I am quite sure that it was from my candle that the gas took fire. I had my lamp with me but it did not give sufficient light to enable me to remove the plates. The roof of the stall had shown symptoms of falling and that was the reason I had taken up the plates. I hung my lamp to show if there was any gas in the stall and I am quite sure there was none until the roof fell."

All the doors were swept away in the explosion and a large part of the pit was immediately filled with afterdamp and as the men tried to get out, they met this gas in the east level. The Report concluded that-

"The ventilation of mines can only be maintained, or speedily restored in the event of an explosion, in so far as the air courses are of a permanent nature and so arranged as to force the air to split itself and to take a determinate course, without the intervention of doors or other easily destructible barriers."

VICTORIA. Nithshill, Renfrewshire. 15th. March, 1851.

The colliery was the property of Messrs. Coates and the explosion left sixty one dead. The colliery had a good upcast and downcast shaft fitted with a tube from a furnace. The manager thought the ventilation so good that the furnace had been stopped for several months. Many of the principle stoppings were constructed of brick and others of deal. There were no sheath stoppings in the waste. The working occupied about 50 acres and the coal was worked by passages about 18 feet wide crossing each other at right angles leaving pillars of coal about 18 by 11 yards. The part of the coal that was being worked was in the north of the pit. The air was carried along the face to these workings by wooden brattices and the old workings were closed by brick stoppings.

Fifty to sixty men had gone down the pit about 3 a.m. and worked as usual until about 5 a.m. when there was a sudden explosion which blew the headgear down and dense clouds of smoke came from the pit which was 120 to 130 fathoms deep. Early attempts to get down the pit failed and engineers were summoned from Glasgow.

Mr. Peter Niven, the overseer, said that he thought the explosion had occurred as there had been a fall which had interrupted the ventilation. The seam was known to be fiery and the local papers commented that it was remarkable that the colliers used naked lights and not Davy safety lamps.

Efforts to explore the pit and look for possible survivors went on day and night but the work was very difficult because the cage was stuck in the shaft but voices could be heard from below. At last one man, John Cochran, was brought on the surface, alive. He told those at the top that there was another survivor below.

One of the two men who were saved David Coleville described the explosion. He said-

"At the moment of the catastrophe I was working with three others, stone cutting at the extremity of the West level. The explosion was indicated by a treacherous rush of air which was driven in advance of the fire-blast and looking forward, we saw an immense mass of flame roaring and advancing towards us. It fortunately took the first 'open' which it met in the direction of the Victoria shaft which was fifty to sixty yards from us. The flame and vapour rushed up this shaft with incredible fury but it partially rushed on and met the men who were going for the shaft. Maxwell and Mahan, after half the distance were fairly overpowered and fell down but Coleville and Cochran, while in a staggering state, happily got a 'puff' of fresh air which revived them and they were able to reach the bottom of the shaft. At this spot after

the fiery blast had ascended upwards a full current of air rushed consequently downwards. We suffered, however from the excessive cold but more from the agonising suspense endured by us by the forty five hours we were imprisoned in the bowels of the earth. Our hope was excited when he heard goings on in the shaft above us.”

When the explorers got into the pit, they found the body of the manager at the pit bottom.

The '*North British Mail*' printed a list of 63 men who were believed to be in the pit. Sixty one of these men and boys died in the disaster.

Barney Martin.

Patrick O'Neill.

Thomas Campbell.

Thomas Scott.

William Scott.

Michael Smith.

Andrew Carson.

Felix O'Neill.

Neil Buchanan married.

Neil Buchanan single.

Thomas Samson.

Matthew Spiers.

James Buchanan.

James Lochlan.

Thomas Hughes.

Frank Hughes.

Henry Gibbs.

John Muhollen.

Robert Black.

Patrick Keenan.

James Baxter.

Neil Catlin.

Richard Smith.

John McMahan.

John Williamson.

James Poole.

C. Kerr.

Charles Schiells.

James Schiells.

Patrick Crossman.

Dennis Crossman.

Robert Whiteside.

George Whiteside, Robert's son.

William McMillan.

Peter Haminpool and his two sons.

Peter White and his son.

Andrew Gebitas and his two sons.

James Kerr and his two sons.

David Colvin.

James Dodds.

John Connelly.

John Bed.

Joseph McIlwain and his two nephews,
Samuel and James McIlwain.

Joseph Baxter.
John McMillah.
John Smith.
John Cochran.
Felix Connelly.
Joseph Brighton.
John Schiells.
John Maxwell.
Sam McDowell.
John Campbell.
Michael Irvine, a boy whose father was lost in a previous explosion at the pit.

The funerals took place at Speedy Church at Barrhead. A reporter from the '*Glasgow Herald*' said-

"We beg to express our fervent hope that the public will not forget that these poor men, summoned to the account without a moment's warning, have left widows and children in a state of total destitution. Poverty is added to the distress of losing the bread-winner and head of the family by a sudden and violent death."

Messrs. Coates gave £500 to the Disaster Fund and £100 to those who took part in the rescue operations.

The accident was attributed to the damage to one of the stoppings which allowed air to pass straight to the upcast shaft and as the men were permitted to work without the examination of an overman, the gas discharged from the waste fired at their naked lights.

The system of ventilation was defective with the downcast air carried in one unbroken current round all the workings while the interior waste, an area of about seventy five acres, was not ventilated at all. Firedamp was liable to come from falls in the waste. The air current was maintained by a single line of brick stoppings which leaked constantly and were entirely destroyed in the explosion. The Report commented-

"It was inevitable that the ventilation of a pit by such a system should be restricted in its volume, for not only was this restriction produced by the air circulating in it being confined to a single, unbroken current, but it was not possible for the men engaged in working the districts could bear a large circulation of air when directed on them in one current."

HEYS. Ashton-under- Lyne, Lancashire. 17th. March, 1851.

The colliery was the property of John Kenworthy and Brothers when there was an explosion of firedamp one man was killed and eight injured, five of which subsequently died.

Those who died were-
J. Ogden and 5 others.

Inspectors Report 1851. Mr. Dickinson

WHITEHALL. Staffordshire. July, 1851.

An explosion was reported in which nine lives were lost.

KINGSWOOD. Bristol, Gloucester. 7th. June, 1851.

The colliery was owned by George Brain and Co. and eight men were lost when a steam boiler exploded. The colliery was known as the Starve-all coalpit at St George, Gloucester.

Those who lost their lives were-

Francis Bryant aged 62 years, married with a grown up family.

Joseph Long aged 46 years married with one child.

William Burchell aged 22 years, married who left two very young children.

James Ricketts aged 49 years who left eight children, four of which were not old enough to work

John Burchell. married with five girls. three grown up and the others young.

John Burchell jnr. aged 17 years, unmarried.

Daniel Mountain aged 36 years, married with eight children, the oldest 15 years.

The two younger Burchells were some of the engineer, John Burchell. In all cases their deaths were by scalding. It was commented at the time that- "Had the unfortunate man, John Burchell been alive, he would have been tried for manslaughter but he is one of the victims of his own recklessness."

FIVEWAYS. Cladley, Worcestershire. 10th. July, 1851.

The colliery was the property of Mr. George Dudley. Safety lamps were use to test for gas but an explosion took place in which four lost their lives and five later died from the injuries they received.

Those who last their lives were-

David Holt,

Harry Cartwright,

George Shaw,

David Worrall,

John Holt, two boys,

Smith and

Joshua Perry and two whose names were not recorded.

The inquest was held at the Swan Inn, Netherton when a verdict of 'Accidental Death' was recorded with a rider that the explosion was caused by the culpable negligence of the doggy.

MALAGO VALE . Bristol, Somerset. 9th. August, 1851.

The colliery was owned by S. Reynolds and Co. and five colliers died when a rope broke and the fell down the shaft. They were being lowered to the lower workings at 240 fathoms when the flat rope broke a few feet from the drum and the all the gear, about three tons in weight fell down the shaft killing the men. There was still 25 fathoms attached to the drum and no blame was attached to the engineman. The machinery had been inspected on the morning.

A crowd gathered at the surface and there was fear that the pit would flood as the machinery had been stopped. A party went down and an old man, Thomas Parsons was so distressed for the life of his son who was in the party, that he died. It was said that- "The poor man made inquiries about his son, and notwithstanding what was said to him, he after a while seemed to be quite convinced that he must have been one of those who were injured. This conviction produced such a shock upon his nerves that he immediately fell down and died."

Great difficulty was encountered to get the rope out of the shaft but this was achieved with the help from other collieries.

Those who died were-

Robert Moffatt

Thomas Pike

William Smith

Philip Pring

William Webster aged 14 years.

At the conclusion of the inquest, the manager of the colliery, Gilroy Stewart and his assistant, Henry Pillinger were taken into custody when a verdict of manslaughter was returned.

The verdict on Parsons stated that he-

“Died from excessive fear and grief from the supposed death of his son.”

WASHINGTON. Washington, Durham, 19th. August, 1851.

There was an explosion at the colliery which claimed twenty eight lives. The upcast shaft was only 7 feet in diameter and the total air of about 28,000 cubic feet per second was divided into five parts with 6 to 7,000 cubic feet going to the workings where the explosion took place. The air depended on one set of single doors and the bratticing was not well carried out.

The ventilation had been in an unsatisfactory state for several weeks so much so that gas appeared at candles and several men left their work in fear. The bulk of the men continued to work and it never occurred to anyone to communicate with the Inspector who, at the inquiry showed that-

‘There was great want of ordinary caution and sufficiency of ventilation to abide so many splits.’

The local registers shows the following burials, August 21st.-

William Hall aged 44.

Thomas House aged 16.

Henry Todd aged 17.

John Todd aged 23.

James Todd aged 13.

Henry Dalton aged 33.

James Pearson aged 14.

Thomas Telford aged 12.

Joseph Bewick aged 46.

Thomas Bewick aged 25.

Michael Bewick aged 21.

George Jones aged 35.

Andrew Hartley aged 13.

George Hutchinson aged 62.

Thomas Thompson aged 22.

Charles Wright aged 14.

John Errington aged 49.

Thomas Elliot aged 43.

Joseph Dawson aged 19.

Thomas Wright aged 16.

Robert Dobbins aged 34.

The inquest into the disaster was held in the Village school hall when, after an extensive inquiry the jury returned the verdict that-

“We are of the opinion that William Hall and others came to their deaths by a fire in the Washington Colliery which took place on McNara’s board and that the fire was caused by gas being ignited at a naked light. The jury are also of the opinion, owing to the alleged accumulation of gas in the mine previous to the explosion, that safety lamps ought to have been used instead of candles.”

WERFA. Aberdare, Glamorganshire. 4th. September, 1851.

The colliery was owned by Nixon and Company with Mr. John Nixon and three partners, Mr. James Evans, Mr. Thomas Edwards Heath and Mr. David Williams. The colliery was sunk in 1846. It was worked by a water balance with the water being pumped up by a steam engine. The shaft was oval, 13 feet by 20 feet and sunk about 66 yards to the bottom of the sump. Fourteen colliers were killed when a chain broke in the balance pit and sent them down the shaft, 180 feet to their deaths. Eleven of the men killed were in the descending cage and two in the ascending one.

The accident occurred at 7 a.m and news quickly spread through the neighbourhood but it was quickly learned and passed on to the waiting crowd that all the men were dead, killed instantly.

The men who died were-

John Perkins aged 36 years, single.

David Humphrey aged 29 years, married with two children.

Thomas Humphrey aged 11 years.

Thomas Lewis aged 27 years, married with two children.

John Rogers aged 35 years, married with one child.

David Williams aged 20 years, single.

Richard Humphrey aged 37 years, married.

William Jones aged 28 years, married.

Rees Morgan aged 41 years, married with eight children.

David Watkins aged 27 years, single.

Thomas Griffiths aged 17 years, single.

David Lewis aged 22 years, single.

William Gole aged 16 years, single.

John Anthony aged 13 years.

John Rogers, Rees Morgan and

Thomas Griffiths were in the ascending cage.

The inquest was held before Mr. Overton, Coroner for the district. John Nixon was examined and told the court that he had found a bucket rod broken after the accident. Thomas Evans, a collier at the colliery asked the hitcher is everything was all right. He thought there were too men in the descending bucket. He was at the edge of the pit and was nothing wrong and no man jump.

Richard Clayton was at his post at the bottom of the pit at the time of the accident when he saw the buckets falling down. He heard a noise and stepped out of the way. he found two of those who were ascending and one in the descend party in the sump. The rest were in the bucket. A smith from Merthyr gave evidence as to the state of the metal but no firm conclusions could be drawn from his evidence.

The Coroner summed up and the jury came to the conclusion-

“That is was Accidental Death caused by the breaking of the iron rods which connected the cross and the bucket, but we cannot separate without expressing our disapproval of the present system of letting down workmen to their work in the

same way as materials are got up and we recommend that drifts should be made to all similar works so as to enable the workmen to go to work without danger.”

KILLINGWORTH, Durham, 31st. October, 1951.

Nine victims required.

There was an explosion at the colliery in which nine persons were killed. The seat of the blast was limited in the whole coal which was six and a half feet thick, lying at a considerable angle and 190 fathoms from the surface. There was an estimated 30,000 cubic feet of air per minute passing round the colliery which had an upcast shaft 12 feet in diameter. The ventilation came from two furnaces.

The workings were worked by safety lamps with naked lights being ordered to be left at a door. The leading headings were 20 yards apart and holed at intervals of 40 yards which meant that there were 60 yards of brattice to each holing.

It appeared that one of the men, contrary to orders, had taken gunpowder and candles into the workings. During the investigation it became evident that the ventilation had been very much decreased due to the extreme wetness of the upcast shaft. Repairs were completed after the accident and the ventilation was much improved.

WARREN VALE. Yorkshire. 20th. December, 1851.

The colliery was owned by Messrs. Charlesworth and the explosion claimed the lives of fifty two men and boys. The colliery had two shafts that were a few yards apart. The downcast was twelve yards in diameter and 127 yards deep to the Nine Feet Coal and the upcast was nine feet in diameter and 65 yards deep to the Five Feet Coal. The down cast shaft took air to both the mines and there was furnace, nine feet long and seven feet wide at the bottom of the upcast shaft which carried the air from both the mines. The air was split at the bottom of the downcast and sent to the Five Feet Coal and then on to the deeper thick coal mine. From here it returned through a staple pit that was only six feet in diameter. In the mines, single ventilation doors were fixed where double ones should have been. Brattices were used in some of the bordgates and even during the day there was not a permanent furnaceman. At night the furnace was not attended at all. The mine was lit with candles.

The colliery was comparatively new and there had been about two acres of coal worked and the thick coal, in which the explosion occurred, had not been driven more than three hundred yards in any direction and the goaves were limited. On the west side, where the gas fired there were three banks numbered 1, 2 and 3. They varied from thirty to forty yards in width and the roads into them were supported by pack walls, six feet thick that had been built from the material that had fallen from the roof.

Seventy men and boys worked in the lower coal and they were supervised by a steward who was old, infirm and had very little knowledge, all factors that worked against him doing his job efficiently. He had a 'fire trier' who was labourer to help him in the morning but generally the men went down the pit in a morning without any report from him.

John Roebuck was the engine tender at the colliery and went to work at 5 a.m. on the morning of the disaster. The men started to arrive at the colliery about an hour later and it was at this time that the 'fire trier', Thomas Sylvester arrived and he was let down the pit first. He did not take a lamp but had a piece of lighted tar rope. The mine was not worked with lamps but considered safe for naked lights. Four or five men went down with Sylvester. Roebuck stated that he had never been told not to let men down until Sylvester had inspected the mine and said it was safe. The practice at the colliery was for the men to go down after him.

Roebuck was in the engine house when the explosion occurred at about five minutes to seven. Two corves of coal were in the deep shaft about ten yards from the bottom.

They weighed about two tons and were blown out of the shaft into the headgear where they stuck. The enginehouse was filled with dust and smoke and metal plates at the pit head were blown up. He then heard a very loud report.

John Hague, a collier, who had two sons in the mine-

"I and my son went to work on Saturday morning in the deep level. We went down at a quarter to six and began to work in our usual place. We found no difference in the air. Joseph Shaw and his brother and Joseph Cooper were in the level above. Charles King, Samuel Pearce and Eli Barker were in the back bord and John James and William Dodson were in the centre bord. We filled two corves, and had started to fill a third corf when the blast came. We had been working an hour. The blast knocked out all out lights but one. We walked to the shaft and fourteen of us got out there, but with great difficulty, on account of the sulphur. There was a great wailing from those who were dying. We were 240 yards from the shaft when the explosion took place. It was nearly spent when it reached us. I assisted in getting men out of the pit."

Charles Burgin worked in the pit as a packer and started work at 6.20 a.m. on the bank at the dip side. he had been there half an hour when the disaster happened.

"As soon as I felt the blast I dropped down to hide myself. I hear others crying out, and I told them to throw themselves down. as soon as I thought it was over in about half a minute) I proceeded into the horse-road towards the shaft. I had gone only a few yards when I stumbled over George Lindley. I shook him, but he made no answer. I left him, supposing him to be dead. When I got to the shaft I found seventeen or eighteen others. I told them to remain quite and I went to the north level. I had not got more than ten yards before I found a dead body. A little further up I found another. I then went to the first bordgate to see if the trapdoor was up, but it was blown away and shattered to pieces. Thinking it unsafe to go further I returned to the shaft, and we all remained there until assistance came from above ground, about an hour after the explosion."

Mr. Burgin went down the pit again and gave an account of the operations that went on to recover and inspect the mine and to recover the bodies.

"We then got some tarpaulin sheets and nailed them in place of the trapdoors and stoppings, which were all blown down. We continued on the level where we found six bodies. We then went to the No.3, or far most bank, and found Thomas Knapton, Henry Gothard, Joshua Bugg, Charles Sylvester and Benjamin Lane. They were all dead. we then entered the No.2 or middle bank and found John Pursglove, Abraham Cooper, Henry Pursglove, Thomas Burgin, William Schofield and James Shepherd. On going into the No.1 bank we found Henry James, Thomas Johnson, William Ashton, Henry Ward and William Hobson. we went up the bordgates and found two other bodies we did not know who they were, they were so bruised and discoloured. At the bottom of the air pit I found Henry Thompson. I then came out and after resting four hours I went down again and was down until three o'clock on Sunday morning."

Charles Bailey went into the Five Feet pit after the explosion with his brother. At the inquest he said-

"We found two boys dead one in the level and one under the bars of the furnace. There were no others left in the five feet pit. We then went into the deep pit, and assisted in getting out forty two dead bodies. Thomas Sylvester, the 'fire trier' was found dead in the No.3 bank. He was elevated about six feet by the stones and coal that had fallen from the roof. There was a very heavy stone upon him. I think Sylvester had crept upon the rubbish after the explosion. The furnace was swept clean out by the blast."

Mr. W. Goodison , the superintendent of the Charlesworth Collieries, gave an account of the operations at the colliery immediately after the disaster. He said-

“After the explosion we immediately began to search for bodies. I and Thomas Cooper made a brattice to convey the air into it’s regular course. Continued until we found dead men and boys in the level. We were then obliged on account of the afterdamp to ascend and we had a steam jet put down to improve the ventilation, after which we descended again and found a dead boy in the level. We were so fatigued that we obliged to desist, after being down for five hours.”

The search was continued by other parties and the last man who was Thomas Sylvester was brought out of the pit about 8 p.m. All the doors in the pit had been blown out and repair work was put into operation.

Those who lost their lives were-
Thomas Sylvester, fire trier.

In the No.3 bank-
Thomas Knapton,
Henry Gothard,
Joshua Bugg,
Charles Sylvester,
Benjamin Lane

In the No.2 bank-
John Pursglove,
Abraham Cooper,
Henry Pursglove,
Thomas Burgin. Brother to Charles,
William Schofield,
James Shepherd

In the No.1 bank-
Henry James,
Thomas Johnson,
William Ashton,
Henry Ward,
William Hobson.

At the bottom of the air pit-
Henry Thompson

The inquest was held under the direction of Mr. Thomas Badger, the Coroner. Mr. John C.D. Charlesworth, the owner was present with his solicitor, Mr. William Smith of Sheffield. The proceedings were delayed because Mr. Charles Morton, Her Majesty’s Inspector and himself had been at York Assizes in connection with the trial of the underground steward at the Woodthorpe pit for culpable negligence.

The coroner opened the inquest by addressing the jury and expressing his deep concern of the frequency of explosions in the area and he referred to the disasters at Ardsley, near Barnsley when seventy people were killed in 1847, Darley Main, 1849 which claimed seventy five lives and the disaster at Woodthorpe colliery. He went on to say-

“Deep responsibility rests with the owners, who ought to employ vigilant and intelligent managers the duty of one of them every morning to go down and inspect the mine, and report on it’s safety before any of the men are permitted to work. It is desirable to have daily reports of the condition of the pits the variations of the weather should be noticed, and their effects guarded against. It is also important to make colliers fully acquainted with the principles the observance upon which alone, both as to light and ventilation, the safety of the whole body of workmen depends.”

Mr. Badger then went on to tell the jury in great detail, what the inquest into the deaths of the men would cover.

“The first would be, Was the pit in a safe working condition, and efficiently ventilated?

Secondly, How, and from what cause, did this terrible explosion occur?

Thirdly, Had the ‘fire trier’ been down on Sunday morning last, and reported as to the safety of the pit before the men were permitted to descend?

Fourthly, Did the top-steward, or the person whose duty it was to see that the men did not go down until the ‘fire trier’ had reported that all was safe, perform his duty in that respect?

Fifthly, Had there been any culpable negligence on the part of anyone connected with this pit by which the explosion was caused? And, if so -- who were the guilty parties?”

The Coroner and the jury then left to view the bodies of the victims, a process that took several hours and when they returned, they started to hear the evidence of the witnesses.

Mr. W. Goodison, the superintendent of the Charlesworth Collieries, said Thomas Sylvester’s duty was to examine the workings before the men came to work and report to the men on the condition of the pit and no one else. Mr. Goodison was down the pit on the 13th. December and found everything satisfactory and the men had complained that there was too much air. Davy lamps were not supplied to the men but they were provided with candles which were deemed safe.

The Coroner asked Mr. Goodison how he thought the explosion occurred and he put forward the idea that perhaps a trap door had been left open by a boy. Lads of eleven or twelve years were employed to do this job and at least three were killed in the explosion. The trap doors were made of three inch deal planking and were constructed so that they would close themselves.

Thomas Hague thought the explosion had been caused by a fall of roof in the No.3 bank. It had been threatening to fall for several days and he thought that Sylvester had gone to examine the place for his body was found there. Thomas said in the morning the men were ‘neck break’ to get down the pit and if Sylvester had cautioned them they would have hated him and they had cursed the banksman many a time for delaying them getting down the pit. Sylvester was a labourer and managed the pit under Thomas Kaye who was the bottom steward who rarely went into the mine except to measure. Kaye was an old man of sixty or sixty five years. After questioning Mr. Hague, Charles Morton observed that there was no regular supervision in the pit and there were no written rules. When asked by the coroner about the cause of the explosion, Mr. Hague said he thought the third bank had broken down and had driven gas into the candles.

William Hague, the banksman at the pit, got to work at 6 a.m. on the morning of the explosion and found that all the men had gone down. He said there was no rule forbidding the men to descend before the ‘fire trier’.

A collier who did not go to work on the day of the disaster, Matthew James, worked in the Nine Feet coal with a candle and testified that the mine was in good condition the day before the explosion.

Thomas Kaye, the bottom steward, said he was sixty five years old who could neither read or write and had previously been a labourer. He never knew of any rules stating that colliers should be kept back until the pit was tested and some men always went down with Sylvester. On the day of the explosion Kaye went to the No.3 bank to see if things were all right. He continued-

“I observed that the No.3 bank was uneasy, and I feared that there would be a break down soon. I told them to beware, because it might break down and drive some sulphur out, which would be dangerous I told to keep their candles down.”

He thought the explosion was caused by a fall in the No.3 bank.

William Sellars, the book keeper at the colliery, stated that there were only two Davy lamps at the pit, Sylvester had been appointed twelve months before and that there were no printed or written rules at the colliery which Mr. Goodison visited once a week.

Mr. Benjamin Biram, who had been the mineral agent for Earl Fitzwilliam for twenty years, agreed that the explosion had followed a fall and that the management of the pit was lax. He did not think that criminal blame could be attached to anyone but the lapses in discipline arose from the opinion that there was no inflammable gas in the mine. He was questioned by the jury of the fact that the furnace was allowed to slacken during the night but he thought the pit was efficiently ventilated.

Mr. J.C.D. Charlesworth who was one of the proprietors of the colliery told the jury of the part that the owners took in the management of their collieries. Since they had a large number of pits, a personal management was not possible and they had great faith in the abilities of Mr. Goodison. He brought the court's notice to a notice that had been printed. It read-

“NOTICE. RAWMARSH COLLIERY.

The proprietors direct that no person be allowed to descend the pits until the bottom steward, or a man that he has confidence in, has been down and examined the works, and reported them safe and it is likewise ordered that the engineman shall not allow any person to descend until the bottom steward has so reported them safe.

WILLIAM GOODISON, Agent.”

He said that the regulation would be in operation at all their collieries.

Mr. Charles Morton gave an account of his inspection of the mines after the explosion. He thought that the cause was a large fall in the newly opened No.3 bank which had been threatening to fall for some time, this was the place where Sylvester's body had been found. The roof had fallen in while Sylvester was inspecting it and the gas that was liberated fired at their candles. It appeared that Sylvester and two others were attempting to go over the fall when they met their deaths.

He was critical of the general management of the mine and the fact that lamps were not used. The goaves should be ventilated and the furnace attended to day and night. He made many proposals that might be put into operation at the colliery. In conclusion to his evidence he said-

“I am convinced that these recommendations, if carried into effect, would much improve the general conditions and safety of the mine, and Messrs. Charlesworth, with advantage to themselves and their workmen, will act wisely in adopting them. I ought in justice to them to say, that they possess the power, and the inclination to effect these improvements in their works and I have reason to believe, from the manifestations which I have seen of their anxiousness to avoid accidents, that they will, as soon as practicable, carry out the suggestions I have offered and, so far as my humble aid will tend to promote this desirable object, I shall at all times be only too glad to give it.”

Three colliery viewers, Mr. T.D. Jeffcock of the Warren Vale Colliery, Mr. Charles Locke of Snapethorpe, near Wakefield and Mr. R.C. Webster of Hoyland, near Barnsley agreed with Mr. Morton's views on the colliery and the cause of the explosion.

The jury deliberated for three and a half hours and returned the following verdict-

“We find that the fifty two men and boys, whose bodies we have viewed, were accidentally killed by an explosion of fire-damp, in the Warren Vale Colliery, in the Parish of Rawmarsh, on Saturday the 20th. December last.”

The jury also made the following remarks-

“Having agreed to the verdict of accidental death, we feel that although there is not sufficient legal evidence for us to find a verdict of Manslaughter against any particular parties, we should ill discharge our duty if we did not accompany our verdict with an expression of our strong disapprobation of the loose manner in which the works seem to have been conducted. We further regard the instructions

hitherto given to the men as quite inadequate to their proper supervision and safety, and it appears to us desirable that there should be stringent rules and regulations at every colliery for its better and safer working. Further, that the proprietors of mines ought to be held, by the legislature, responsible for the efficiency of their agents and superintendents."

The jury expressed their thanks to Mr. Morton and Mr. Biram for their valuable evidence and the proceedings closed.

The recommended improvements were adopted by the colliery to the ventilation and the management. A larger furnace was constructed for the lower mine and fed by fresh air. Three times as much air passed through the mine. The Inspector concluded his report by saying-

"The discipline is now stricter, and the superintendence more vigilant and efficient."

INCE HALL. Wigan, Lancashire. 22nd. December, 1851.

The colliery was the property of A.F. Haliburton and was variously called the Deep Pit, the Arley Mine and Brown's Pit and was situated near Hindley Station.

On Monday morning about half past five, upwards of one hundred men and boys descended the shaft. About six o'clock there was a tremendous explosion of firedamp which caused great concern and anxiety in the neighbourhood. When the alarm had subsided a number of the surviving colliers and pit men went to work and recovered thirteen bodies which were conveyed to their homes in Hindley by eleven o'clock.

Those who lost their lives were-

Robert Davies aged 25 years who left a widow and four small children, the eldest about eleven years of age. He was blown a considerable distance from his place of work.

Joseph Topping aged 39 years left a widow and four children.

John Topping aged 15 years and Henry Topping aged 11 years both drawers and sons of Joseph.

Henry Meadows aged 25 years, left a pregnant widow and one child.

John Hiram or Aran aged 45 years left a pregnant widow and six children.

Elisha Hiram or Aran, aged 15 years, drawer, his son.

John Whittle aged 47 years, left a widow and six children.

Wright Southern aged 15 years, drawer.

Matthew Edge aged 15 years, drawer.

James Jolley aged 15 years, drawer.

George Pigot aged 65 years, bottom man. He was dreadfully burned and had his head mutilated. He left a widow.

Thomas Bushell aged 21 years, bottom man and unmarried.

Another account omits the name Matthew Edge and substitutes Walter Highe.

As the sufferers were brought up Mr. Wright and Mr. Fisher, surgeons were in attendance and rendered every assistance that they could. At about a quarter past five a boy named Robert Banks went down the shaft with his collier Robert Davies and the boy, who survived said that the underlooker, George Pigot had been down from four o'clock to examine the south-west workings in which the explosion took place. Banks went with Davies and others about 550 yards from the pit eye. As soon as the tun was filled with coal, he was sent away with it and having gone about 150 yards towards the shaft, he, his little brother and some other boys sat down on the shunt and had been talking for about ten minutes when the explosion took place. The air rushed past them with such force that the iron rails were torn up and broke them into pieces. One of these fragments slightly wounded his ear and the blast forced him against the side of the level. His skin was peppered with small coal fragments.

Before Banks left Davies he heard him tell John Whittle that he should want "yon road dressing. that it would be safer to draw through and that he must get it done as soon as he could." Whittle said it would take him all day. Davies then told Pigot and Bushell to take props out of some other disused workings from which the coal had been exhausted. Banks believes the men went to do this and thinks that when the props were removed the roof fell, liberating gas which went onto the men's candles.

Banks also related his rescue of a younger brother' He said-

"I started t get to the bottom of the shaft as soon as I coupled and when I had gone on a bit, I bethought me of my little brother and I thought the little chap should not be left behind. So I turned back and as well as the sulphur and chokedamp would let me. I called to him but he made no answer. As I was s going along, I felt something lay hold of me and soon found it was my brother. I carried him with me to the bottom of the shaft and we were both almost spent."

The inquest was held at the Red Lion Inn, Hindley before Mr C Driffield and after a long and exhaustive inquiry the jury returned a verdict of 'Accidental Death'.

ROSCOE'S. Rochdale, Lancashire, 18th. February, 1852.

It was reported that due the very bad weather water burst into the main level of Mr. Roscoe's and Lords colliery in Rochdale between 5 and 6 p.m. The mine was 54 yards deep and the main drift 260 yards long.

Some of the men were at work and those near the shaft managed to get into the cage and be drawn to the surface before the rapidly rising water. Two men and two boys in the upper workings retreated before the rising water until they reached the top of the drift where they could do nothing but stand and watch the water rise. Before it reached them it began to subside and they were able to escape but others were not so lucky.

Those who died were-

Samuel Wolstenholme aged 16 years,

Benjamin Shepherd aged 12 years,

W. Yates aged 30 years, married,

T. Lees aged 30 years, married,

M. Howarth aged 18 years,

Robert Howarth aged 14 years.

Noah Howarth aged 16 years, three brothers and the sons of a local farmer and

Robert Shepherd aged 30 years who left a wife and six children.

NORLEY, Wigan Lancashire, 24th. April, 1852.

The colliery was the property of Reece Bevean and the Duke of Bridgewater. There were two shafts 480 feet deep and workings that ran to the east and the west. The accident happened in the Engine Pit on a Friday night when most of the colliers had left the pit an explosion claimed twelve lives. There was conflicting evidence as to how the pit was lit. Moses Cureton, the underlooker said that there were only locked lamps used and naked lights were not allowed in the pit but Peter Greenall, collier, said he had worked in the pit for about six months. James Atherton worked in the place below his and John Atherton in the place above. On the day of the explosion he left his place about 3 a.m., his days work finished. As he was coming put of the pit he saw his drawers going back to the place to clear some coal and he also saw Hitchen and Atherton still at work with their lamps open. He spoke to them but said nothing about the lamps.

Those who died were-

James Greenall aged 14 years, Edward Greenall aged 15 years, James Atherton, collier, John Atherton, collier, Hitchen, collier and seven others.

Peter LEADBEATER, aged 33, Drawer
Thomas HITCHEN, aged 15
Edward GREENHALL, aged 14
Thomas ASHURST, aged 13
Robert ROBY, aged 12
Joseph HITCHEN, aged 11
John LOWE, aged 11
James GREENHALL, aged 15
William ATHERON, aged 13
William HUYNON, aged 13

The inquest was held before Mr. Driffield, Coroner at the Red Lion, Lamberhead Green. Mr. Wynne, the Inspector was present. Geoffrey Bannister, drawer to John Atherton for nine weeks said that he was with Atherton in his place and Atherton had taken the top off his lamp. The lamps had been open all day as Atherton had removed the top when he started work. The lamp was not locked.

The jury stated that according to the evidence their verdict was 'Accidental Death' but at the same time they were strongly of the opinion there had been mismanagement in carrying out the workings. They commented on the conflicting evidence of the lights in the mine and recommended that Mr. Wynne's suggestions that there should be only locked lamps in the mine.

HEBBURN. Hebburn, Durham. 6th. May, 1852.

The downcast and upcast shafts were 12 feet in diameter. About 70,000 cubic feet per minute of ventilation air entered the downcast shaft and this was split six times. The quantity of air going to the area where the explosion took place was a little over 4,000 cubic feet per minute. The seam was five and half feet high and all the places were bratticed with doors at the bord ends. The men worked with lamps but were allowed to open them to fire shots in the coal. The stoppings were well constructed and the air regulated by the stoppings in a such a way that there were no doors in the rolleyways which were 2,000 yards long.

Twenty two persons lost their lives in the explosion when a single bord, 37 yards long, became fouled from a door being neglected. One boy was in charge of two doors. Most of the men were killed by afterdamp.

Those who lost their lives were-

John Barnfather aged 19 years, single.
Edward Johnson aged 18 years, single.
Samuel Wardle aged 18 years, single.
Michael Wardle aged 10 years.
James English aged 12 years.
John Gascoign aged 34 years, single.
George Pattison aged 29 years.
John Pitchford aged 24 years, single.
James Coal aged 39 years married with a wife and daughter.
James Orr aged 33 years left a wife and three children.
William Deans aged 37 years left a wife and three children.
John Greenwell aged 30 years left a wife and three children.
William Scott aged 27 years left a wife and three children.
George Hall aged 27 years left a wife and three children.

John Smith aged 33 years left a wife and four children.
William Wear aged 32 years left a wife and four children.
Thomas Richardson aged 26 years left a wife and two children.
Silas Philipson, deputy aged 23 years left a wife and one child.
James Parson aged 22 years left a wife and one child.
John Peel aged 66 left a wife.
Allan Brooksbank aged 26 years. He had married a widow with three children three months before. She had been married four times and had lost the previous three husbands in colliery explosions.

GWENDRETH. Pontyberem, Carmarthenshire. 10th. May, 1852.

The colliery was about three and a half miles from the village of Llwnon. On Monday, that day of the disaster, about twenty eight colliers were at work and everything appeared quite normal when, at about 10 a.m. the water broke into the pit. Only one man escaped and twenty seven lives were lost when some old workings were holed. It did not appear that systematic boreholes had been made to discover the exact position of the old waste.

The dead as listed in '*The Cambrian*' were-
David Aubery left a wife and 4 children.
Daniel Aubery, brother of David left a wife and 2 children.
William Davies aged 12 years.
Rees Davies left a wife and mother.
John Evans left a wife and 6 children.
George Evans left a wife and 3 children.
David Evans, brother of George.
Morgan Griffiths.
John Harris aged 15 years.
David Harris aged 10 years, brother of John.
William Hughes left a wife and 4 children.
John Hughes aged 22 years, son of William.
David Jones left 6 orphaned children.
Griffiths Lewis, aged 18 years.
Thomas Morris aged 18 years.
Stephen Phillips left a wife and 3 children.
David Rees left a wife and 2 children.
Thomas Richards left a wife and child.
Edward Thomas left a wife and 4 children.
Evan Thomas brother of Edward.
Daniel Thomas aged 11 years.
David Thomas aged 12 years, brother of Daniel.
Daniel Wilkins brother of William.
William Wilkins.
John Williams brother of John.
John Williams.

The dead as listed in the '*Carmarthen Journal*' were-
William Hughes, wife and four children.
John Hughes aged 22 years, son of William.
David Jones left six motherless children.
Griffith Lewis aged 18 years.
Morgan Griffiths aged 18 years.
William Davies aged 12 years,

Thomas Morris aged 18 years.
Stephen Phillips, wife and three children.
Thomas Richards, wife and child.
David Rees, wife and two children.
Rees Davies, wife and mother.
John Evans, wife and six children.
John and David Harries, brothers aged 15 and 10 years.
Joshua and David Williams, brothers.
William and Daniel Wilkins, brothers 15 and 17 years old.
Edward and Evan Thomas, brothers, former with a wife and four children.
David and Daniel Aubery, brothers the former with a wife and four children and the latter with a wife and two children.
Daniel and David Thomas, brothers.

The disaster left nine widows and forty orphaned children.

Mr. Watney, the owner of the colliery, administered to the immediate needs of the victims' families and a public subscription was opened for their relief.

David Evans, the sole survivor, told of his escape. He said-

“At ten o'clock when all 27 men and myself were at work in the pit, myself, two other men and two boys were at the bottom of the shaft engaged near an empty 'cage'. when we heard a fearful roar in the further end of the pit accompanied by a rush of air which nearly overwhelmed us. We all jumped into the cage which was used to wind up the men and gave the signal to the engineer to wind up[. The signal had hardly been given when a vast body of water, rushing with tremendous speed from the extreme end of the pit, dashed the cage from its position and rendered it impossible for the engine to remove it. We struggled, each man for himself. I can not remember everything but I caught hold of a wooden girder by the side of the pit and started to ascend. I saw another try to get put this way but he was washed away by the water. A boy named David Harris grasped my coal tails and we went up a few feet when the water washed the boy away.”

Evans reached the surface exhausted and barely conscious. The water in the pit was very muddy and would clog pumps and there was doubt at the time whether the bodies would be recovered. At the place over the point where the water rushed in, there was a large sinking in the surface of the field which sunk 10 to 12 feet.

The inquiry into the disaster took place at the New Inn, Pontyberem before Mr. Bonvills, Coroner. John Ord, overman at the colliery, said that he had held the past for the last five years. The colliery worked the Gras and Dugaled seams. The shaft was sunk to the Pumpquart when he came. Boring had been made by Mr. Short on the 24th. June, 1848, before Ord came to the colliery. The shaft was sunk 82 yards from the Gwendreth to the Pumpquart, a total depth of 150 yards. The top holes, where the water broke in, had been driven 400 yards from the main level and upwards of 90 yards beyond the stall workings. the top holes were double six feet wide with ten yards of pillar between and the crossings were ten yards apart and six feet wide.

The top of the coal in the top hole where the water broke in was 32 yards below the surface of the valley. The evidence for this came from a borehole 12 to 14 yards in front of this which showed that the coal was 28 yards below the surface of the field. They bored 18 inches into the coal and not through it. The band in the middle of the hole that was left in the field showed six yards down clay and gravel, then three or four yards of water and gravel then nine or ten yards of blue ground, a dry hard blue clay, but no rock over the coal. Within three yards of the coal the clay got blacker and harder.

The Pumpquart coal was a hard coal 5 feet 9 inches thick with a blue shale roof and strong measures above which stood without the help of props. The floor was 18 inches of hard fireclay called 'bottom stone' and at least four feet of strong rock under this.

There were no props in the top hole and the roof had never given way. The feeder of water had broken 130 yards lower than the end of the top hole about 18 months before.

The engine was raising 4 to 500 cubic yards of water per week after the first feeder had broken in which was double the quantity before the feeder broke in. The flow of water gradually increased and steps were taken to divert it. The water came from the top of the coal and ran naturally. Some men had put in three props to make a bay to drain the water. They began work about 1 o'clock and Ord saw them between 1 and 2 o'clock when one prop had been set.

Morgan sanders came to Ord and told him that the water was getting less but said nothing of having seen a hole. Four men were sent in to make a dam.

John Ord told the court of his experiences on that day-

"At half past ten o'clock, Thomas Wilkins told me of the accident. I heard no signals but Thomas Evans called up the pit. I sent Thomas Wilkins down to him with a rope and in about 10 minutes, Evans was brought up."

After hearing the evidence and the Coroner's summing up, the jury returned a verdict of 'Accidental Death'.

Mr. Wales, the Inspector commented that the banksman and engineer were not aware of what had happened except that the rush of air had broken the slider and thrown the carriage at the pit top out of gear. he also commented on the fact that the mine was working within 40 yards of surface water but he had heard that the roof was very strong and precautions had been taken and all the evidence he heard, no blame could be attributed. He said that in future known old workings should be approached with extreme care.

COPPULL Coppull, Lancashire. 20th. May, 1852.

The colliery was the property of John Hargreaves. Both the upcast and downcast shafts were 12 feet in diameter but although there was small furnace at the bottom of the shaft, it was seldom used and a small common lamps was suspended in the shaft. A shaft was sunk around 1847 after the previous explosion, to increase the ventilation and was 210 yards deep. from the pit bottom a level, 360 yards connected the Coppull shaft for ventilation. There was a further level, 280 yards driven at right angles and called the shunt. The colliery worked the fiery Arley Mine. The stoppings were all built of coarse coal and rubbish and all the air was retained in one column. The colliers and drawers were bound to provide their own safety lamps and it appeared that rather than loose their work, they would risk working with candles, even if there was gas present.

On the morning of the disaster, Thomas Smith, fireman went down the pit at 4.40 a.m. to make his inspection. The men followed him down and were told to wait in the shunt. Pillars of coal were being removed and Smith found that there had been a large fall of roof which had interrupted the ventilation and gas had accumulated. He went to the men and found that Thomas Gregson and another man had gone into the workings. Smith told the men not to go into the workings until the ventilation could be restored and Smith went to find John Ellis, the underlooker who approved what had happened and set off to stop the men entering the workings.

A little before 7 a.m. the men at the surface realised that the pit had fired as dust came up the shaft. The cage was lowered and by 8 a.m. 90 men had escaped, many affected by chokedamp and several were burned but about 40 men were not accounted for. By ten o'clock three bodies had been found and by the following day thirty two bodies were recovered and several were found to be very badly burned.

Those who lost their lives were-

William Ainscough aged 35 years of Coppull, left a wife and two children.

James Almond aged 22 years of Chorley.

Thomas Banks aged 40 years of Coppull, left a wife and three children.

Robert Banks aged 16 years son of Thomas.
Thomas Banks aged 14 years, son of Thomas.
William Baxendale aged 29 years of Chorley, left a wife and child.
Ellis Berry aged 28 years of Chorley, left a wife and child.
William Blackhurst aged 25 years of Duxbury.
Richard Booth aged 31 years of Duxbury, left a wife and two children.
John Bradley aged 26 years of Coppull, left a wife and six children.
John Butterworth aged 12 years of Coppull.
Henry Culshaw aged 30 years of Coppull.
William Darbyshire aged 35 years of Duxbury, left a wife and two children.
John Ellis aged 24 years of Coppull the only son of the manager, John Ellis.
William Green aged 30 years of Chorley, left a wife and three children.
Richard Green aged 27 years, brother of William, left a wife and child.
Thomas Gregson aged 40 years of Coppull, left a wife and four children.
John Gregson aged 9 years son of Thomas.
George Howarth, a lad of Chorley.
Thomas Miller aged 20 years of Chorley.
Peter Moorfield aged 25 years of Coppull, left a wife and two children.
William Morris aged 31 years of Duxbury, left a widow and five children.
Edward Robinson aged 30 years of Coppull, left a wife and child.
John Roscow aged 24 years of Coppull.
William Ryding aged 21 years of Coppull.
Robert Smith aged 17 years, son of the fireman.
Thomas Southworth aged 12 years of Chorley.
Robert Tootal aged 13 years of Coppull.
Stephen Turner aged 30 years of Wrightington, left a wife and two children.
James Turner aged 41 years of Coppull, left a wife and four children.
Thomas Watson aged 40 years, widower with four children.

Those injured-

John Culshaw aged 25 years brother to the two others.
Henry Dickenson aged 45 years, widower of Chorley.
John Farrington aged 20 years of Coppull.
Samuel Holcroft aged 25 years of Coppull
James Hunter aged 18 years of Coppull.
John Yates aged 27 years of Chorley, left a wife and two children.
Three of those injured must have died as the official total is give as 36 deaths.

Thomas Banks was at the bottom of the shaft when the blast occurred. He had two children in the pit and found Robert about 200 yards in the pit, alive and able to crawl to safety. his father left him to find Thomas. All three lost their lives to the afterdamp. The inquest was held at the Wheatsheaf public house when the cause of the accident was put down to Thomas Gregson, entering a place where he had been forbidden to go and the gas ignited by a candle.

MIDDLE DUFFRYN. Abderdare, Monmouthshire. 10th. May, 1852.

The pit was the property of Messrs. Powell of Newport and was ventilated by a furnace and an occasional steam jet which produced 28,000 cubic feet per minute which was split three times. In the workings the men used naked lights. There was an engine pit and a coal pit. The coal it was bratticed and formed both the upcast and downcast and the engine pit was shut off.

The explosion, which claimed sixty eight lives, was thought to have been caused by gas suddenly being given off at a fall which fired at the furnace. After a previous

explosion Mr.. Blackwell recommended that lamps should be used and the brattice in the shaft should be done away with by constructing a dumb drift but no action had been carried out.

The stoppings, constructed of dry walls, near the lower part were 18 inches thick, and the upper part of mortar. They were backed by 8 to 10 yards of rubbish. The men were made to go down the engine shaft on ladders. Not more than 30 acres were mined in which there were standing pillars. The arrangements for the ventilation required 35 doors which would cause a lot of leakage and it was not thought that a current of 28,000 cubic feet was sufficient.

Those who died in the explosion were-

William Andrews aged 29 years.

William Ashton aged 22 years.

Charles Davies aged 46 years.

David Davies aged 14 years son of Edward.

Edward Davies aged 34 years, father of David.

Henry Davies aged 26 years.

Daniel Deer aged 26 years.

Evan Evans aged 47 years, father of Evan and Richard.

Evan Evans aged 21 years, son of Evan.

Owen Evans aged 56 years.

Richard Griffiths.

Levi Harris aged 27 years.

John Hopkins aged 15 years, son of Rees.

Rees Hopkins aged 50 years, father of John.

David Jenkins aged 36 years.

John Jenkins aged 12 years.

Owen Jenkins aged 27 years.

Richard Johnathan aged 43 years.

David Jones aged 38 years.

James Jones aged 37 years, father of William and John.

John Jones aged 14 years, son of Lewis.

Lewis Jones aged 43 years, father of William and John.

William Jones aged 12 years, son of James.

William Jones aged 16 years, son of Lewis.

David Lewis aged 32 years.

William Lewis aged 23 years.

Charles Marks aged 11 years, brother of William.

William Marks aged 15 years, brother of Charles.

David Morris aged 10 years, son of Ebenezer.

Ebenezer Morris aged 32 years, father of David and John.

John Morris aged 12 years, son of Ebenezer.

Edmund Phillips aged 16 years.

Thomas Phillips aged 30 years.

Thomas Pritchard aged 36 years.

David Rees.

John Rees aged 30 years.

Samuel Rees aged 37 years.

Thomas Rees aged 23 years.

Thomas Rees aged 13 years.

Thomas Jenkin Rees aged 29 years.

Richard Richards aged 55 years.

William Richards aged 16 years.

Jenkin Rosser aged 22 years.

Rowland Rowlands aged 43 years.
William Samuel aged 16 years.
Richard Smith aged 38 years, father of Richard.
Richard Smith aged 15 years, son of Richard.
Charles Thomas aged 46 years, father of Charles, David and Evan.
Charles Thomas aged 11 years, son of Charles.
David Thomas aged 17 years, son of Charles.
Evan Thomas aged 19 years, son of Charles.
Rosser Thomas aged 32 years.
Charles White aged 35 years.
Thomas Williams aged 28 years.

Killed at the pumping shaft collapse-
Jenkin Aubery aged 28 years.
Thomas Evans aged 41 years.
John Griffiths aged 21 years.
David James aged 36 years.
David John aged 11 years.
Daniel Mathews aged 18 years.
Thomas Morgan aged 23 years.
John Richards aged 12 years.
John Thomas aged 12 years.

Those who survived were-

John Jones.
David Edwards.
David Rowlands.
William Leyshon.
David Jones.
John Edwards.
David Evans.
Morgan Rosser.
David Griffiths.
William Jones.
David Davis.
Jenkin Griffiths.
William Williams.
Jenkin Thomas.
John Norris.
Evan Beddoe.
D. Davis and son.
Jenkin Jones.
Mike Barry.
William Thomas.
David Harris.
David Lewis.
John Thomas.
David Williams.
Rees Leyshon.
Walter Price.
Thomas Morgan.

The explosion left twenty nine widows and thirty children orphaned.

Evan Beddoe the fireman, narrowly escaped with his life and gave the press an account of the disaster.

"I was in the pit the first thing in the morning and I saw no signs of danger whatever. The air was as clear and as pure as on the surface of the earth. I went down at four o'clock on Monday morning to see if all was safe. There was a little fall in the deep heading and I went up to tell the master (Mr. Shipley, the manager of the pit), of it so as to contrive something what was the best to be done. I saw no signs of foul air there at all. We contrived that timber was to be put in to support the place and what men were to do it and they were to take Davy lamps, lest there should be firedamp there. All that was done. When I went to the deep heading a second time, that is, between the hours of eight and nine on Monday morning, after putting up the timber, I met gas myself in the deep heading it showed itself on my lamp and so much of it as gave me to understand something had fallen there since I had been there. I had my lamp in my hand and that gave me signs of firedamp being around me. I ran away instantly as soon as I saw the danger, to hinder anybody to bring naked lights there and to give notice to the men."

Beddoe went on to say that he also intended to direct large volumes of air onto the gas so as to dilute it but before he had time to do this he heard an explosion. He was stuck down by the blast eight yards from the bottom of the shaft and lost his lamp and hat and was very bruised. In a great state of confusion, he jumped up made his best way to the shaft. He reached the bottom of the pumping pit and there was fresh air coming down. He heard no cries of alarm. The after damp quickly killed those in the mine. Evan was slightly burned.

The inquest was held before Mr. Overton, Coroner for the district when the jury brought in the following verdict after they had deliberated for two hours and returned the verdict-

'Accidental death' and we are of the opinion that the Middle Duffryn Pit was in a good state of ventilation at the time and a fall produced a large discharge of gas which poured along the return air course and there exploded at the flue with a great loss of life. We are also of the opinion that there is no neglect or culpability on the part of the agent or management notwithstanding we much regret that the recommendations of Mr. Blackwell in respect to the last explosion have not been complied with, we recommend that the proprietors construct a dumb drift."

BUNKERS HILL. Bilston, Staffordshire. 16th. June, 1852.

The colliery was the property of Messrs. Formstone, Thompson and Dummock and did not work over the weekend. On Sunday the men who looked after the horses went down to the pit to feed them and left an air door open. This prevented the ventilation reaching the workings and there was an accumulation of gas.

On Monday morning the first men went in the ironstone mine. A handful went down first, about ten in all. The second skip was descending when an explosion took place with such force that they were blown out of the skip and fell to the bottom of the shaft. The engine was immediately reversed when it was found that one of the lads was entangled in the tackling and was hanging head down. He was rescued and preparations made to go below ground.

The noise of the explosion had been heard in the surrounding area and an anxious crowd gathered at the pit bank. There were many volunteers offering their services to go below and they were not deterred by the sulphurous smoke that was coming up the shaft. The rescuers waited a quarter of an hour to allow the fumes to disperse and a party of four went down the pit but when they got to within a few yards of the bottom they were compelled to return because of the bad atmosphere.

The men who were in the pit when the explosion took place were able to crawl to the shaft where they lay waiting for help. Their awful groans and screams of agony could be heard by those on the surface and another descent was made and the men at the bottom of the shaft were found. There were twenty two of the them and they were brought safely top the surface. One was found to be dead and four others died almost immediately and many others were burnt in a terrible manner.

Naked candles were used throughout the pit. There were also five horses in the pit, four were killed in the blast and one which was brought up alive died later from its injuries.

Those who died were-
Samuel Bowen aged 13 years,
James Priest aged 14 years,
Richard Ellis aged 38 years,
John Lane and
Enoch Yates aged 19 years.

The inquest on three of the victims was held at the Royal Oak Inn, Portobello. William Wright, a miner employed at the pit said that Isiah Hill was the ground bailiff and on the morning of the accident he was standing on the pit bank when he heard the explosion. He went straight to the pit bank and found two butties, William Taylor and William Rhodes crying and very distressed. There were screams coming up the shaft and he volunteered to go down with three others. On the second attempt it was totally dark at the shaft bottom and they managed to get three men into the skip. Isaac Nook was the only who could speak when brought up. They went down again and found Bowen whose clothes were on fire. Priest was dead and was brought up. Ellis was terribly burned and was taken home but died a little later.

Samuel Hazelwood, a sinker said that he had been down the pit and thought that there had been an explosion of gunpowder. Bowen had his skull half blown off. There had been five men and seventeen boys in the pit and he had examined every part of it that morning after the disaster. He found 'Little Tommy Stevens' who asked him not to hurt him but to take him home.

The inquest came to the conclusion that the disaster was caused by a gas explosion ignited by a naked light.

SEATON. Seaham, Durham. 16th. June, 1852.

The colliery was known as the 'Nicky Nack Colliery' which was a short distance from Seaham Harbour. Six lives were lost and several others were reported injured. There had been two previous explosions at the colliery that years but this was the first that caused loss of life.

Shortly after the explosion several men volunteered to go down the pit where they found the men and boys nearest the shaft quite safe. The exploring party went down but the afterdamp was so strong that they had to withdraw as some of them were suffering badly from the effects of the gas. They worked the brattice forward and the first body discovered was that of Charles Halliday. A horse was found dead with the body of William Simpson who was burnt but the bodies of the other, who were miners were not in the least burnt.

The 'Durham Advertiser' reported that-

"All the bodies were brought to the pit bank in the course of the afternoon and the scene at the pit mouth was heart-rending in the extreme."

The men who died were-
John Defty aged 53 years,

Charles Halliday aged 10 years,
John Pratt aged 20 years,
John Simpson aged 36 years,
William Simpson aged 27 years and
Andrew Simpson aged 18 years.

John Defty left a widow and nine children and Charles Halliday had a brother in the pit who ran past Charles immediately after the explosion and managed to get 30 yards through the afterdamp to safety. Charles was smashed against a wall by the force of the blast.

The inquest was held at the Mill Inn, Seaham, before Coroner Mr. T.C. Maynard. Mathias Dunn, the, Mines Inspector, attended the proceedings and the cause of the explosion was put down to the naked lights used by the men.

LOWER ELSECAR. Barnsley, Yorkshire. 22nd. December, 1852.

The colliery had worked the Barnsley coal which was over nine feet thick at a depth of 154 yards for about five years with no serious accidents and employed about 140 persons. It was owned by Earl Fitzwilliam. The ventilation to the mine was provided by a fan, eight feet in diameter and placed underground and driven by a steam engine at 170 r.p.m. The fan was the invention of Mr. Biram, Earl Fitzwilliam's agent. The air was split into two currents, one going round the north of the mine and the other to the south in which district a pair of '*bordgates*' had been driven. These were far a head of the working stalls and were being driven towards two new pits that were being sunk to improve the ventilation.

It was known to be a fiery mine and Davy lamps were used. Two '*fire-tryers*' were appointed to inspect the pit in the morning and to overlook the operations during the day. At midday on the day of the accident the '*tryers*' were not on duty and in their absence a boy propped open a trap-door upon which the ventilation of the west bordgate depended and it remained open for about half an hour. During this time, gas collected in the upper parts of the bordgates.

When the ventilation was restored and the door shut, the air collected the gas and it reached a point where a man was working with the top of his lamp unscrewed and the explosion occurred.

THE VICTIMS.

THESE ARE REQUIRED. Are they on a plan in MIR?

1. Stenton.
2. Dickinson.
3. Mallinder.
4. Fletcher
5. Walker.
6. Hurst.
- 7.
- 8.
- 9.
- 10.

The inquest was conducted by Mr. Badger, the coroner and from the evidence of the witnesses, the story of the explosion emerged as the witnesses gave their evidence Joseph Hodgson and William For were the '*tryers*' at the colliery and the former told the court that they had made their inspections at 4 a.m. and found the pit safe to work in.

Hodgson left the pit at 8.30 a.m. and Ford stayed down because one of them had to be in the pit but he left the pit at 11.30 a.m. and the explosion took place at 1.15 p.m.

When they returned they directed a stream of water down the engine pit to try to increase the ventilation and then descended to search for the men. Some were found uninjured in the north district which they got out of the pit. But on the south side they found that the stoppings had been blown out. they replaced them with sheets and managed to get the air into the end of the mine and went forward.

They found no damage between the third and fourth bordgates but in the second and the other bordgates, ten doors were blown out and a number of stoppings. They did not see any of the bodies but on the following day they made a search for the lamps and found a lamp-bottom where Stenton's body was found and the lamp to two yards away. John Hodgson thought that the boy, Lindley, left the door in the west bordgate open and the gas fired at Stenton's naked lamp.

When he was questioned by Mr. Morton, the Inspector, it emerged that the colliers often took off the tops of their lamps but it was against what they had been told and the colliery had no fines for men that were caught doing this.

William Ford, the other 'trier' had examined the north side when Hodgson was examining the south. he found it safe but found gas in the goaf between the first and second bords. He showed three men, Dickenson, Mallinder and Stenton, who were near it, to be careful. Later, a man named Swift told him that he had found the ventilation door open and shut it.

After the explosion he went to and underground engine and tried to start the ventilation fan but the afterdamp drove them back. When he got into the south workings he found doors and stoppings blown out, including the door that had been propped open. Moulson was found alive and they found the bodies of Stenton, Dickinson, Mallinder, Fletcher, Walker and Hurst.

Mr. Morton then questioned him about the working of the colliery and was told that the mine was worked with lamps but they were often unscrewed and blasting in the mine was done with gunpowder that was fired by touch-paper and he had often seen gas fired by the shot but there had not been a fatality at the colliery for the previous five years.

John Swift, a hurrier and the man who found the door open and closed it said he found the door open immediately after dinner. He and another hurrier, Lindley had come through the door when they were going to dinner and he was first through and put a brick at the bottom, Lindley, who was following, should have removed the brick but did not.

John Bearshall, was a labourer and in the pit at the time of the explosion, said Ford and Hodgson had told the men not to remove the tops of their lamps. James Moulson, a collier was also in the pit at the time, felt the blast and was taken home unconscious from the afterdamp. Swift and Lindley took his coal away and it was Swift's duty to open the door and Lindley's to close it.

George Charles Hague was clerk to Mr. Biram, Earl Fitzwilliam's colliery viewer, but had nothing to do with the underground management of the colliery, thought that the ventilation of the mine so good, the fan gave between 25,000 and 33,000 cubic feet of air per minute, that it could have been worked with candles but the colliers had strict orders to work with lamps.

The underground steward of the colliery, James Utleby, said there were no printed rules at the colliery and he had nor seen any in other pits. Had he seen men working with naked light, she would have sent them away immediately. The lamps were trimmed by a man, Denton, but there were no locks on them. There had been complaints that the oil was bad and the lamps would not burn. Mark Barber, was on the north side at the time of the explosion told the inquiry that the oil in the lamps coked the wicks and they had to unscrew the lamps to clean the which as pricklers were not provided.

Mr. Utley had duties both above and below ground and four working shafts to look after and had not been down since the previous Monday. He had prohibited blasting with the exception of the west bordgate on the grounds that it was dangerous. There was no barometer at the colliery.

Her Majesty's Inspector of Mines, Mr Charles Morton along with Messrs. Biram, Woodhouse and Jeffcock and others made an inspection of the mine after the explosion. He pointed out that if the ventilation had not been split as it was there would have been a much greater loss of life but he was critical of the methods in operation in the mine particularly the lamp system and the fact that there were no written rules.

The colliery viewer, John Thomas Jeffcock thought that the lamp system could be better at the colliery and pointed out that printed rules were not common in the district. As far as he knew only the Oaks Colliery had them. Robert Charles Webster, a colliery viewer thought that the explosion was caused by the door being left open as did all the eminent mining men at the inquiry.

George Lindley was called and cautioned by the Coroner as to any statement he might make to the inquest. He stated-

"I was tramming on the day of the accident I got my dinner in the pit, between twelve and one o'clock, and then the explosion took place.

I am not guilty of what is laid to my charge, for I did not leave the door open. Swift propped it open, and I do not know who came through after me".

Mr. Benjamin Biram had been Earl Fitzwilliam's mineral agent for about thirty years and he agreed with Mr, Morton and the others as to the cause of the explosion. With regard to the safety lamps, he said he had developed a lamp of his own that was safe, gave more light and was cheaper than other lamps but he felt he could not urge its use in pits that were under his control and left it to the workmen whether they used it or not. It would lock, had a shield to protect it against an air current, a mesh of Sir Humphrey Davy's standard and gave four times more light than a standard lamp.

Mr. Badger, the coroner, gave a thorough summing up of the evidence and the jury brought in verdict of 'accidental death' and strongly recommended that the suggestions made by the Inspector to improve the working of the mine be carried out.

NEW COTTAM. Chesterfield, Derbyshire, 21st. January, 1853.

The colliery was the property of Appleby and Company and three men and four boys lost their lives by the breaking of a chain.

George Hodgkinson, engineer at the colliery said that about seven in the morning the men came to work to go down the pit. He set the engine in motion and when it had gone about six yards he found that the weight had been lost. He stopped the engine and went to see the banksman who said the chair had gone down the pit. He raised the rope and found that the ring was broken. The link had been put on the day before and he had examined it and found no defect in it.

Those who died were-

Charles Greaves aged 38 years, married with two children.

John Greaves aged 29 years, married with two children.

Thomas Waterhouse aged 26 years, married with one child.

Robert Robinson aged 16 years.

John Barton aged 18 years.

Joshua Naylor aged 20 years.

Richard Wright aged 20 years.

At the inquest at the Rose and Crown, the coroner after hearing all the evidence summed up and said that there appeared to have been some neglect on the part of the

management. It was stated that the iron ring was strong enough to carry five tons and it appeared to him that the engineman was bearing the brunt of the responsibility undeservedly. They jury retired and after some deliberation returned the following verdict-

“We are of the opinion that the deceased came to their deaths by the breaking of the iron ring but we have not been able to discern the cause of it breaking. We recommend that Messrs, Appleby and Co. should carry out their works with more regularity in future and that no more that two persons should ascend or descend at any one time.”

RISCA. Monmouthshire. 12th. March, 1853.

The colliery was owned by John Russell. There were not locked lamps in the colliery and firedamp exploded suffocating the seven victims. An appendix in the 1880 Mines Inspectors Report by Messrs. Dickinson, Wales and Cadman on the explosions at the Risca Colliery say that there were ten victims. This was the fifth explosion that had occurred at the colliery and since the one in 1846 the levels had been extended almost to their limit from the shafts. That on the west was 960 yards out and the one on the east 1,300 yards with the air current on the west side travelling 2,700 yards and that on the east, 3,650 yards. The area of the workings extended over 120 acres of which 70 acres were closed by falls and impervious goaves. During an inspection of the pit in May of the previous year, by Mr. Herbert Mackworth, the ventilation was measured at 12,895 cubic feet per minute and he found firedamp in the higher parts of the workings.

The explosion was found to be caused by the leaving open of an air door and in the opinion of the Inspector, '*was due to the wanton neglect of two of the deceased*'. There had been a blower that had been issuing gas which could be ignited for three weeks had come from the shale above. In this part of the workings there was an airway which was designed to allow the accumulation of gas when the ventilation was slackened. The two deceased, regardless of any cautions given to him by the fireman, took down a sheet which caused the gas to accumulate on the windway and then, by leaving a stall door open, the gas was forced out to be ignited at a candle

Those who died were-

Joseph Bryant aged 24 years collier,

Aaron Bryant,

Rees Davies, collier aged 24 years,

George Purnell, door boy aged 11 years,

Moses Moor, door boy aged 12 years

Samuel Darke aged 12 years and

Solomon enkins aged 20 years, collier who was burnt and suffocated.

Brought out of the pit injured were-

William Beachan, a boy.

John Chivers.

James Christopher, a boy.

Thomas Davies, died three days later.

David Morgan, died three days later.

John Porch.

William Purnell, father of Henry.

Henry Purnell, son of William.

Richard Richards.

Alfred Sims.

John Williams, died three days later.

Samuel Williams.

In his official report on the disaster Mr. Mackworth states-

“An attempt having been made by persons of some authority to account for some explosions by a slight increase in the ventilation, and as the property of these goaves yield carbonic acid gas instead of firedamp might give a colouring to the assumption it is necessary to point out its fallacy. From my explanations of the hazardous condition of many firedamp collieries and to which Risca had been and is known by no means an exception, it is evident that the system adopted placed too much within the power of the colliers the means of occasioning, by ignorance or neglect, a fearful sacrifice of human life.”

This statement apparently refers to an answer given by Mr. T.E. Forster to questions before the Select Committee of the House of Commons on Coal Mines in 1852-

“Following up the question of inspection, I think that Lancashire and Wales my opinion is there will be a great many more accidents than there had been yet, because, previous to the Inspectors being appointed, there was not sufficient atmospheric air in the mines to make the gas explosive now the inspectors are insisting upon a little better ventilation, and upon their putting in ore, which makes it dangerous between the transition from bad to good a great many lives will be lost.”

INCE HALL. Wigan, Lancashire. 24th. March, 1853.

The colliery worked the Arley Mine at a depth of 414 yards. and was the property of the Ince Hall Coal and Cannel Company. The Arley mine was one of a cluster of eight pits within an area of about two miles and were about one mile due east of Wigan near the Leeds and Liverpool Canal. Although it was known to be a very fiery seam, it was worked with naked lights and in the resulting explosion, fifty men and boys were killed.

The pithead been worked for about three years and was ventilated in the usual way, by means of an upcast shaft and downcast with a number of airways and doors. The General Manager of the whole Company was Mr. James Darlington but George Bury was the overlooker of the Arley Mine and Thomas Jones who had responsibility for the ventilation of the mine.

On the morning of the day of the disaster there was a slight accident to the guide rods in the upcast shaft and Jones immediately reduced the power of the ventilation of the furnace so that joiners could effect repairs. He took this action without consulting Mr. Darlington and he also kept the men down while the furnace was slackened. When the repairs were completed the furnace was fired up again. During the time the furnace had been slackened it was thought that gas had accumulated in the workings and had been drawn towards the furnace where it had exploded.

A few minutes after one o'clock on that Wednesday, the men were leaving work a little earlier as it was s pay time about four o'clock and they had just come out of the pit and were waiting at the pit bottom to be drawn to the surface. There were about sixty four men with a group of about twenty waiting at the shaft bottom near the furnace. The explosion occurred a little after one o'clock close to the furnace and vented up the upcast shaft, tearing up iron plates at the pit mouth and damaging the cage and the shaft machinery and well as portions of its brick lining. The force of the blast carried materials into the air and hurled them into the canal. The concussions shook furniture in two inns, the Britannia and the Navigation Inn, a least three hundred yards from the pit mouth. It was amazing that little was heard or felt of the explosion in the mine and some of the colliers who were rescued stated that they heard a noise that was no louder than the banging of a door.

As soon as the explosion was heard, a considerable number of people collected at the pit bank. The upcast shaft was not much damaged but hot sulphurous fumes and

thick smoke stopped any attempt to go down. James Darlington got together a number of volunteers and sent for surgeons. He organised a stream of water to be poured down the downcast shaft in order to restore the ventilation. This was carried on for about twenty minutes when an attempt to descend was made. The party included Mr. Darlington, Thomas Jones, the underlooker of the Arley Mine, Burrell the underlooker of the Cannel Pit and four or five colliers but before the cage had reached the bottom, the suffocating fumes, known as afterdamp was found to be too strong and the signal was given to bring them to the surface.

Again large quantities of water were thrown down the shaft for about a quarter of an hour when a second attempt to descend was made by the same party. The fumes were found to be strong but they persevered and reached the pit eye near the furnace. By this time one of the men was so exhausted that he had to be sent to the surface where he arrived in a state of great exhaustion to be immediately attended by the medical men and brandy and other restoratives were administered and they recovered in a short time.

Survivors started arriving at the surface, many of the men supported by a rescuer and the backs carried on the backs of men. They were taken to the enginehouse and soon recovered to the state that they were either capable to walk home and conveyed there in cabs. Sergeant France of the County Constabulary arrived at the pit and found a large crowd who had come to learn the fate of their relations. Many were women anxious about their husbands, brothers or fathers. It was difficult to preserve order and the Sergeant was supported by eight men from the County Constabulary and three constables from The Wigan Borough Police.

Some of the dead were brought to the surface and many of the rescuers needed medical assistance when they returned. About half past four, Mr Fisher, surgeon and several assistants went down the pit to help ten men below and in a short time they brought up five men and boys all in an exhausted condition. Among them was a man named Aaron Jelly who besides the effects of the gas was suffering a fractured skull and leg. He appeared lifeless for some time but regained some consciousness and was taken to his home in Schofield Lane in a straw filled cart.

By five o'clock, twenty four had been taken put alive from the stricken pit. By that time the crowd at the pit was so large that it was considered undesirable to bring the bodies to the surface and the workmen were employed searching the workings for bodies which were brought to the pit eye ready to be drawn up.

About midnight, the first grim cage-load came to the surface and by a quarter to two in the morning, twenty four bodies of men and boys had been taken to two out buildings at the Navigation Inn on heaps of straw in the ground. Proper persons were employed to lay out the corpses with the greatest care and priority. The bodies remained there for the Coroner's jury to view them.

About half past three in the morning the twenty sixth survivor was brought out of the pit. Robert William had been in the most distant part of the workings at the time of the explosion, about three quarters of a mile from the pit eye. He suffered exhaustion from the atmosphere in the mine but when he was brought out he was able to stand and after a short time he made his own way home.

Those killed-

John Marsden aged 33 years, hooker-on, married with two children.

John Stanley aged 24 years, hooker-on, unmarried.

Joseph Hunt aged 37 years, fireman, married with six children.

Edward Hunt aged 15 years, son of Joseph, drawer.

Michael Connelly aged 21 years, jigger, unmarried.

James Green aged 11 years, drawer.

William Tabener aged 28 years, labourer, unmarried.

Joseph Tabener aged 18 years, brother of William, jigger, unmarried.

Joseph Blacklidge aged , about, drawer of Chorley.
George Hargreaves aged 24 or 25 years, drawer, married with two children.
William McKnight aged 25 years, jigger, married with two children.
Thomas Baxendale aged 38 years, labourer married with two children.
William Gent aged 19 years, drawer, unmarried.
Samuel Gent aged 20 years brother of William, drawer, unmarried.
Eli Jelly aged 33 or 34 years, collier, unmarried.
Thomas Wright aged 35 years. collier, married with five children.
William Byrom aged 26 years, collier, unmarried.
Matthew Rigby aged 23 years, drawer, unmarried.
John Huyton aged about 52 years, labourer, married with six children.
John Mallin aged 20 years. drawer, unmarried.
James Jones aged 18 years, drawer.
John McAllister aged 20 years, drawer.
James McAllister aged 14 years, drawer.
Joseph McAllister aged 16 years, drawer.
Henry Isherwood aged 27 years, married with one child.
Edward Marsden aged 18 years, drawer.
Joseph McIntosh aged 29 years, collier, married with two children.
Peter McNaught aged 13 years, drawer.
Robert McNaught aged 18 years, drawer.
Edward Hanley aged 12 years, drawer.
John Cavanah aged 22 years, drawer, married with one child.
Michael Cunliffe, aged 22 or 23 years, jigger.
Matthew Byrnes aged 21 years. drawer, unmarried.
Robert Jones, aged 26 years, collier, married with three children.
Thomas Ellison aged 20 years, collier, unmarried.
Robert Lewis aged 22 years. married, no children.
Ralph Valentine aged 25 years, labourer, married with one child.
Cutus Morgan aged 18 years. collier, unmarried.
Thomas Owen, aged 30 years, collier, married with two children.
James Hardman aged 13 years, door tenter.
Joseph Gaskell aged 20 years, collier, unmarried.
William Griffiths aged 32 years, collier, unmarried.
Charles O'Neill aged 28 years. collier, unmarried.
Arthur O'Neill aged 21 years, brother of Charles, collier, unmarried.
John O'Neill aged 18 years, brother of former two O'Neill's, drawer, unmarried.
Thomas Glaive aged 22 years, Collier, unmarried.
John Davis aged, young man, drawer,
Thomas Jones.
David Jones.

The Wigan surgeons were treating several who were seriously injured including,-
William Critchley, a young man, an unknown boy with a fractured leg and very much
affected by the afterdamp,
Aaron Jelly,
Robert Ainscough aged 23 years, collier who a was dangerously ill,
James Naylor aged 26 years, collier,
Thomas Martindale, a young man and
a man named Mason who has hurt his back.

The inquiry was held before Mr. C.E. Driffield, the County Coroner. Mr. Darlington,
the colliery engineer, gave a detailed account of the cause of the disaster-

“A reference to the plan will show the working on the 23rd. March, 1853. The proximate cause of that disaster was traced to the south doors at the top of the No.2 Jig being left open for a shorter or longer period, thereby fouling the rise workings to the north of that Jig. It must be borne in mind that the explosion occurred at one o'clock. About nine o'clock a.m. the cage had broken the wooden guides, laying the pit idle for nearly four hours. During this interval work was suspended, and door-lads, colliers and drawers appeared to have left their posts and congregated together. Some had gone to the main level where the full current would in any case sweep past them, and others seated themselves about thirty yards north of the doors supposed to have been open in a sort of blind level, where no current traversed they would not, therefor, be conscious of the mischief that was accruing. On the pit resuming work at one o'clock, it was assumed the doors had been hastily closed, thus directing the air in its usual course, and sweeping over the shot on Griffith's place the foul current from the north.

The north district was then ventilated by one current, which swept the face of every working-place in that district before it returned to the upcast. This current was measured to 15,903 feet a minute.”

OLD PARK. Dudley, Staffordshire. 26th. April, 1853.

The colliery was owned by Lord Ward and eleven lives were lost in an explosion.

Those who died were-
J. Wilcox and 10 others

ROSE HILL, Willenhall, Staffordshire, 31st. May, 1853.

Property of Rose and Brown
Saunders and others killed in an explosion.

BENT GRANGE. Oldham, Lancashire. 1st. July, 1853.

The colliery was owned by Thomas Butterworth and the Inspector had told him previously that the ventilation of the mine was defective. The explosion killed twenty men and boys, thirteen died from suffocation and seven were burnt to death.

Following the explosion of the 9th. October, 1850 in which 19 lost their lives, another shaft had been sunk at the colliery and completed by February, 1851. This was used as the downcast and the old shaft as the upcast with steam jets 35 feet below the surface fed by boilers on the surface.

The explosion took place in the west level about 300 yards from the shaft where some labourers had been widening the roadway the previous night. When the day men came down they had been warned to be careful. It was said that one man had taken off the top of his lamp and paced it on a wagon. It was the practice and the men smoked if they pleased.

At the time of the explosion the underlooker Mr. Greenwood, was at the surface and at first he thought something had happened to the steam jet but then realised there had been an explosion as smoke and embers came up the shaft. He ordered the cage to be lowered and some men came up. The cage continued working until most of the men came out of the pit travelling 13 or 14 a time in the cage. All the bodies had been recovered by 11 p.m.

20 victims required.

The inquest brought in the verdict that-

“The deaths were accidental but we further consider that strict inspection should be given by the underlooker that, until the furnace is erected no collier whatever should take the top off his lamp under pain of immediate discharge.”

MONKSWEARMOUTH. Monkswearmouth, Durham. 14th. July, 1853.

An explosion of gas at the colliery owned by Mr. Pemberton, claimed the lives of six men. The gas collected in the goaves and in the struts of the roof. The management of the mine was aware of this and used safety lamps in the mine but blasting was allowed in the pit under the supervision of certain overmen who made an examination and then opened their lamps to fire the charge of gunpowder.

The local papers state that only Mills was killed in the explosion but the others were badly burnt. It lists them as-

William Mills.

Isaac Storey.

Robert Salmon.

All killed.

The injured-

John Salmon.

Henry Fielding.

James Taylor.

John Richardson.

Hugh Donninson, deputy overman.

COWDENBEATH, Dunfirmline, 30th. November, 1853.

The colliery was the property of the Forth Iron Company and five men lost their lives when the rope broke and sent them down the shaft.

Those who died were-

Edward Sheppard and 4 others.

GARSCUBE, Glasgow, Scotland. 13th. December, 1853.

The colliery was the property of James Barclay and Company and five lost their lives in an explosion of firedamp

Those who died were'

Patrick McDade and 4 others

It was reported that five persons were killed by the smoke from an underground engine. The smoke passed through the waste and was expected to go up the upcast shaft but the pit had no ventilating power and a great deal of cooling water was falling down the shaft. The air reversed and the smoke went through a narrow slit into the workings. The five men who were suffocated were close to the shaft bottom.

BRYNDDU. Pyle, Glamorganshire. 23rd. December, 1853.

The colliery was owned by G.S. Ford and Son The mine was worked by safety lamps which were not locked. Five men and boys lost their lives in the explosion. On the day of the explosion the men had been cautioned not to work in a part of the pit where gas was known to be. The men stayed out of the area until the afternoon when John

Williams went in when his naked candle came into contact with the gas and there was an explosion in which three men and a boy were burnt to death.

Those who died were-
John Williams, aged 41 years,
William Johns, aged 27 years,
Rees Williams, aged 11 years,
William Rees, aged 37 years and
John Williams. aged 16 years.

At the inquest into the accident at the Prince of Wales inn, the owners of the colliery were exonerated from all blame for the disaster. The men were interred the following Monday and it was reported that work stopped in the neighbourhood for the day.

NEW COTTAM. Chesterfield, Derbyshire. 21st. January, 1854.

The colliery was owned by Appleby and Co., and eight people were being lowered down the pit in the morning when an iron link suddenly snapped and they fell to their deaths down the shaft. The link formed part of a short chain attached at the end of the rope and had been fitted the previous evening but its strength had not been properly tested and it was not welded properly.

Eight or nine men frequently descended at once although the cage was meant to hold only six. There was no need to lower more than two at a time as there were only forty men working underground at the colliery.

Those who lost their lives were-
John Greaves,
Charles Greaves,
John Barton,
Robert Robinson,
Thomas Waterhouse,
Richard Bright,
John Naylor and
Herbert Marlborough.

The Inspector said in the better managed collieries, the cage was run up and down the shaft loaded with corves several times before the men descended but this precaution was not done at this colliery. The ropes and chains were examined at infrequent intervals and the banksman paid little attention to the safety of men travelling the shaft. Signals, if given were uncertain and irregular and sometimes totally disregarded. The engineer was known to drive the winding engine too fast when he was winding men and the shaft was badly walled and had no conductors or guide rods. The steward of the colliery was old and infirm and did not often inspect the workings underground and the Inspector found no written or printed rules at the pit.

At the inquest, the jury brought in a verdict of 'Accidentally Killed' on the victims but admonished the colliery owners that they-

“should conduct the colliery with more care, regularity and skill in future, and that no more than two persons should pass up or down the pit at any one time.”

The Inspector advised that a couple of side chains should be attached to the cage in addition to a centre chain and that wooden conductors should be fixed in all the drawing shafts. Mr. Appleby, one of the proprietors of the colliery, seemed really anxious to comply with the recommendations.

INCE HALL. Wigan, Lancashire. 18th. February, 1854.

The explosion occurred in the Ince Hall, Arley Pits which belonged to the Ince Hall Coal and Cannel Company. Eighty nine lives were lost with thirty seven of the deceased being burnt to death of which eighteen were classed as being 'badly burnt.' The others appeared to have died from suffocation by the afterdamp.

There had been an explosion in the same pit the year before that took fifty eight lives but since then, on the recommendation of Her Majesty's Inspector, Mr. Joseph Dickinson, the discipline in the mine had improved and the amount of ventilating air almost doubled but the system by which the mine was worked still remained very complicated.

The Arley seam at the colliery, were deep, 414 yards and worked on a large rise to the shaft and this impeded the return air since it had to travel downhill for seventy yards. With a system such as this, any slight change would interfere with the efficiency of the ventilation and at the time of the explosion a storm was raging. At the time of the disaster, all the workings in the colliery were producing coal. An Upper seam was worked from mouthings in the shaft and they were ventilated by the same openings.

The Arley seam that was worked at the colliery was one of the most notorious and fiery in Lancashire and there had been explosions in it where ever it was mined, at the Burgh and Coppull colliery, those in Adlington and Blackrod and the Kirkless Hall colliery. The average thickness of the seam was four feet and at the Ince Hall colliery, there was not much trouble except where faults were encountered. The roof was of black bass about nine inches thick then a slaty metal from ten to fourteen feet thick overlain by hard rock of variable thickness. outbursts of gasses were known to come from these rocks.

The workings were divided into districts with a deputy in charge of each who examined the working places before the men entered and then went back to the shaft to inspect the men's lamps. He inspected the gauzes and made sure that they were locked. Any violation of the rules such as smoking tobacco, removing lamp tops or continuing to work with a damaged lamp was dealt with by heavy fines, legal prosecution or instant dismissal.

The shafts were eleven feet four inches in diameter and the mine was ventilated by a furnace which was twenty five yards to the west of the upcast shaft. The furnace was six feet wide and nine feet long and a dumb drift connected the return air courses which were controlled by doors and fresh air was directed down the downcast shaft by cast iron pipes. The total quantity of ventilation in the mine was 77.130 cubic feet per minute with 10, 000 cubic feet going to the No.2 Jig.

The mine was worked by driving two level to the south to the boundary and pillars worked back towards the pit. The top of the No.1 North Jig were also driven to the boundary to the coal under the town and had laid idle for some time as there were cotton mills on the surface. The district between these and the shaft were not perforated by drifts and the only new work driven into fresh coal since the explosion in March, 1853 was on the down brows on the east side of the pit.

The explosion happened early in the afternoon when the ventilation was at its lowest and the men had been at work for a number of hours which had probably opened fresh feeders of gas. The centre of the explosion was about 140 yards from the shaft at a place where there was a large amount of the return air. The coal was burned right back to the furnace.

William Anderton of Ince, the overlooker on the surface of the Arley Mine and Cannel Pits, said-

"On the afternoon of Saturday the 18th. I was at the works about half past two. I was about 100 yards from the mouth of the Arley Pit and happened to be looking in that direction. I heard a report and saw smoke coming out of both pits the report was not very loud the smoke was thick and black and there was dust Thomas Robson, the sub-manager was with me. I had seen Mr. Darlington near the pit but

he had left about three minutes before the explosion, saying he was going to Wigan. I knew an explosion had happened and made off to Mr. Darlington in Wigan but I did not find him readily, I got back again, leaving word that he should be sent after me. When I got back I found Josias Dobinson, the underlooker, Robson and others had gone down. The men were coming out of the south workings very fast and as far as I heard, all came out of that side safe. I stayed at the top as I was in charge there. Soon the men began bringing people up from the north side they were more or less burned one of them, Sherrington, who died on Friday morning. He was not burned but seemed to be out of his mind, and almost raging, from the effects of the sulphur. Mr. Darlington came to the pit between half past three and four o'clock and went down in a few minutes, only waiting to put on my pit coat. Other men went down as soon as possible for some who went down did not stop long and we got regular shifts. The first dead body that was brought up was Dobinson's boy no more were got until late in the evening they were all removed to this yards and by Sunday evening eighty seven had been recovered and so removed. Mr. Peace, Lord Balcarres's manager, arrived on Saturday evening and sent for further help from His Lordship's collieries, arrived on Saturday evening, which was made use of. I remember nine men, uninjured, being brought out about 10 o'clock on Saturday evening. I understood they were found in the north workings. During this time. Mr. Darlington was still down the pit. I understood that no stoppage was made in the search until the whole of the eighty seven bodies had been recovered."

Josias Dobinson, the head underlooker of the Arley Mine had charge of the entire underground workings since the last explosion in March last. He gave this account of the disaster-

"At the time of the explosion I was at my own house, about a quarter of a mile off, but being informed of it, I went to the pit directly and went down with Henry Burrill, the underlooker of the Cannel Pits and some others. The shafts were uninjured and the cage itself was all right. On getting to the bottom of the downcast shaft, we went to the engine house and lighted the lamps for he heard there was a light in the engine brow. between the pits there are double doors which we found closed and uninjured. We had to pass through them to get to the north side where I knew my boys and the rest of the men were and where I knew, from the state of the doors and the air in the downcast shaft, the explosion had been. As soon as we were through the doors, I went on to the upcast or bye-pit, but we could go no further on account of the sulphur. I found it impossible to get to the furnace that way, so I and others, went up the No.1 north jug and got found to the furnace. We then went round by the No.1 north Jig and came to the furnace by a round about way. We found traces of fire the doors and props were still on fire the furnace was much damaged, and four of five yards of the brickwork thrown down. We got water buckets and put out the fire. Then we came along the main north lower level. We stopped at the air crossing over the foot of the No.1 north Jig, which were blown down. We travelled on as far as we could and found some bodies there. I went one way by myself, the air crossing having been first set right by putting up a few planks and a bit of cloth and a party of men went the other way. In No.2 Jig we found a boy lying alive and several others dead. The air stoppings were all blown up there and I could not get farther than the second air crossing. I returned along the horse level."

All the time Mr. Dobinson was relating his account, he was illustrating his progress on a detailed plan of the mine workings. He continued-

"On the north side of the doors we found nine men, sitting and waiting for someone to get them out they were very glad to see us. Those men told us that another man, Matthew Corless, that had left the slant Mr. Hewlett and myself went up and found the men dead. I came back to the top of the Jig and found twelve

bodies lying dead. Gerard Farebrother, a pony driver was one of them. The pony was found alive a long distance along the slant where he had left it. Had he stayed with it, he would have been safe. None of the doors on the level were injured and after we put up the air crossing it was good and I think that the nine men we got out alive may have lived a considerable time longer if we had not happened to get to them. All the bodies that were found at the top of the jig seemed to have been suffocated. There was not a mark of burning on them.. I can not say exactly what time I was there it might have been nine or ten o'clock at night. I then went up the pit and saw Mr. Darlington at the engine house, the one at the pit bottom. Mr. Darlington accompanied me along the north level to No.2 Jig. We got further than I had able to get before but it was not so good as we could get into the working where the principle part of the men lay. I then went put of the pit and went home. One of my boys had been sent home.

I went down again soon after three o'clock on Sunday morning and made at once for the no.1 slant workings and managed to get through to the greater part of the workings between Nos. 1 and 2 Jigs. Some of the men who had been extinguishing the fire in some coal had got into the slant before me. The air was not very good but I could breath freely. Those workings were the principle seat of the explosion all the bodies were found there more or less burned and in some places the coal had ignited. Many of the cloth stoppings and some of the brick ones had been knocked down. In Woodcock's drift, which is one of the centre places in No.1 slant, I found a fall of roof extending over 50 or 60 yards and all the breadth of the place and covering the floor with about four feet of stone. It was a new fall, but I can not say whether it fell in consequence of the explosion or before. I know it was not down on Friday. Some of the men's lamps were in their places, others had their lamps with them. John Brown's lamp was broken by the explosion and so was one of a man named Ashbrooke but I never heard of any lamp being found unscrewed or with the top off.

There were three or four points at the extreme south of the workings in No1. slant where the fire seemed to have been the most sever. I have seen many of the lamps found in these places. They were all sound. Jas. Pilkington worked in the southernmost place. All the return air form the north main level passed close by the end of that place.. Pilkington, had, that morning, holes through into the return air course at the bottom. He had not completed it, but the hole was about a yard or four feet long and about eight or nine inches high. The lower air passed through the hole and out into the return air course. In the bottom of the cut through we found the remains of a shot which had gone off. There were the remains of the fuse, showing that it had burned but the powder remained in the hole. It is the business of the fireman from each district to fire the shots and it would be John Brown's duty to fire this one. The men have not been allowed to fire their own shots since the last explosion. Some men have done so but in eight or ten cases they have been discovered and I have fined the men 5s. or 10s. Men have taken before the magistrates for smoking and one of them is now in prison. A furnace man was imprisoned for a month for neglect of the rules. If the shot in Pilkington's place was lighted, I believe it was done by John Brown. His body was found driven fast into a corner almost directly opposite the cut through. It was covered with dust and rubbish blown out of the workings. Brown's lamp was near him. It was much damaged but the screw was all right. from the position of Brown's body I think the force of the explosion had taken the direction from the No.1 slant workings towards the furnace of the upcast shaft. I expect that Brown waited near the corner after lighting the fuse until the shot went off. It was the last he would have to fire that day and he might have been injured by the coals if he had not waited as he did but had attempted to pass directly on to the cage so as to come out. I never

heard of any complaint of Pilkington firing his own shots and from the position of the bodies, I feel sure Brown fired this one.”

Robert Banks, collier of Wigan, was one of the survivors and gave this account of the explosion-

“I work in this pit on the north side in the drift next to Woodcock’s, and was at work on Saturday, the day of the explosion. It would be about half past two when I came out of my place my drawer left before me. I had been in Woodcock’s place about eleven o’clock. I has not seen any thing wrong in my place, and the air was very good. I had only worked in it three days, having commenced on Wednesday, but played me on Friday as my hands were bad. I saw nothing wrong. When the explosion happened, I had got to the pit eye, and had been sitting in the engine-house at the bottom of the shaft, with my little boys, for three or four minutes. The reason I did not go up directly after I got to the pit eye was, because the rule says, eight of us must go up on the cage at a time, and there was only five. Andrew Mulroy, who is living, but injured, was one of those with in the engine-house to go up, and ‘Throp’ as they call him (Thomas Lee), was the other. When the gas fired, I heard a noise, and there was rush of wind, and I lay down them another rush of wind, not so much as the first, and I rose up, and there was a wind greater than ever. I was out of my senses for a while, and when I came to myself the blast had taken us away through the south pit, and I found myself lying there, near the downcast shaft. My boy was lying there not much hurt, but he had got a blow on his thigh my other was not hurt. Anthony Mulroy was hurt. There was no injury done to the engine-house that I could see.”

James Murphy , collier, Ince, said-

“I worked in the furthest place at the top of No.2 Jig north, and was in it at the time of the fire. I saw nothing of the explosion, but I felt the air singing in my ears. I dropped my pick and was examining by brattice when it came a second time, and then I said, ‘*O Lord, It’s fired!*’ The first time I was not sure the gas had fired. I put on my clothes, and called the two lads who were my drawers, and went out. I met a man, who told me they were all lying dead in the jig, and that it was getting bad with the sulphur there to. It was Samuel Worthington he is dead. The sulphur came to us and I said to him. “*Well, if we don’t get some place, we’ll not be for long.*” He said, “*There’s better air at the back of the jig.*” I said, “*Let us go down the jig.*”

He said, “*It’s no use going there, where there’s a men lying dead.*”

I sat down and considered at bit, then he said, “*In the name of God, let us go down this here jig, for I don’t know no other way to get out of it.*” well, he got up with me, and we went some way down the jig but he said, “*I can’t stand this hear no longer, I will go back.*” and he did. I never stopped, but went on, and the two boys who were with me dropped down somewhere or other on the jig. I had a tin bottle [tea can] and put it against my mouth and found benefit from it. After I had lost the lads I kept on for some distance, and then I fell, and how long a time I laid there I cannot say but after I came to myself I went along the north level, thinking I was still going to the shaft, until I came to a cloth hanging up, and then I knew I was going wrong, I turned and went back to the pit, and I fell in with the searchers who sent me up.”

Another of the survivors, William France, who was underground for between seven and eight hours before he was rescued gave this account to the press-

“I went to the pit about five minutes to five on Saturday with seven or eight others. I worked in Nos. 7 and 8 places of the 1st. Jig on the North Side. The brow was about 400 yards long and it turns out of the main road about 600 yards from the pit eye. There was a distance of about 3 yards between the places and there were nine to ten places on the brow. When the blast happened, I was filling my last box of the day. My drawer, Benjamin Simpkin, who is about twenty years old, had

come in and he was holding the light. The blast knocked me against the sides of the workings and I soon recovered from being stunned. Then I ran about 10 yards down the brow with my drawer after me and I thought that if I was going further I had better see if the air was going right again so I took the light and went back to my place. There was no air stirring and in the road it felt quite heavy. I picked up my clothes and put them of in haste telling Simpkin to do the same. he said, 'What's the hurry? I don't like stopping here.' But although the report was aloud one, we did not think anything very serious had occurred. After getting out I was not satisfied as to which way to go. I turned back to see if there was any air stirring and found there was a little but it was going the wrong way. After, we got to a pair of doors on the level at the top of the jig and when I opened the doors the gas hit my face like a cloud and I could not go one. I turned back and I thought of going out on the South side. On the way up we saw the body of an man who had tried it before and had been overcome. I think he was alive and we tried to draw him out but we could not withstand the sulphur and we had to leave the man and return back as fast as we could as the sulphur was well nigh choking. We tried to get round to the main return but we cold not manage it. The sulphur stopped us again. We returned to get round to the back of the door and stayed there until help came. before they came to us I took my dinner wrap and went to dip it into a pool where the horses get their drink and covered my mouth and nose with the wet cloth and ventured through the door. just beyond I saw seven or eight lying dead in a heap. One of them was one oft e Balderstones. The other was George Barlow. I had it in mind to put the cloth over Barlow's mouth but it had dried out and I thought he was breathing. If the men had stayed at the back of the door as we did, they would have been all right. It would be about 10.30 when we got to the pit bank above ground. I am getting better now but I am still weakly at times. It was awful work and me and my drawer at one time saw them men and boys lying around all groaning and dying."

Those who lost their lives were-

William Dobison aged 13 years, rolley hooker, son of the underlooker of Ince Green Lane.

Richard Jones aged 29 years, married with a child, horse tenter of School Lane.

Henry Peet aged 54 years, head fireman of Ince Green Lane who was married.

Robert Webster aged 23 years, drawer, married with a child of Queen Street, Wigan.

Richard Dickinson aged 15 years, rolley hooker of Broom Street.

David Harrison aged 35 years, fireman, married with four children of Wagon and Horses Yard, Millgate.

James Webster aged 14 years, a helper.

Thomas Dobison aged 15 years, pony driver, brother to William.

Nicholas Sullivan aged 12 years, door tenter of Whatmough's Yard.

Joseph Thompson aged 13 years, pony driver of Lowe's Square.

Thomas Walker aged 14 years, drawer of Britannia Bridge.

Thomas Chatterly aged 19 years, drawer, married of Bridge Street, Chapel Lane.

William Houghton aged 23 years, drawer of Vauxhall Road, Scholes.

John Cassidy aged 15 years, door tenter of Black Swan Yard.

Thomas Down aged 20 years, drawer of Boy-Well Lane.

James Gregory aged 20 years, collier of Rigby's Yard.

James Kelly aged 23 years, drawer of Cooper's Yard, Scholes.

George Jolley aged 15 years, drawer of Chapel Lane.

John Alpine aged 16 years, drawer of John Street, Scholes.

James Whittle aged 30 years, hooker-on, married with two children of Warrington Lane.

William Hayman aged 25 years, married with three children, colliery of Barrack Yard.

Edward McGowan aged 11 years, driver of Greenough's Row.

John Hesketh aged 28 years, collier, married with one child of Barrack Yard.
James Robert Nelson aged 10 years of Ince Green Lane.
James Pilkington aged 35 years, married collier with three children of School Lane.
William Rotherham aged 30 years, collier of Orrell.
John Mather aged 15 years, pony driver of Lyon Street.
William Leicester aged 50 years, collier married with a child of Bridgwater Street
William Horrocks aged 22 years, collier of Wallgate.
Edward Preston aged 17 years, drawer of Lyon Street.
William Gerard aged 12 years, pony tenter of Warrington Lane.
William McClennan aged 35 years, collier, married with four children of Bull Yard, Scholes.
William Scott aged 18 years, hooker-on of Club Row.
John Marsden aged 19 years, drawer of Cooper's Yard.
James Sharrock aged 10 years, pony driver.
John Atherton aged 19 years, collier.
Gerrard Fairbrother aged 14 years, drawer of Lyon Street.
John Fletcher aged 13 years, drawer of Lyon Street.
William Fairbrother aged 11 years, door tenter, brother to Gerrard.
William Mulderig aged 18 years, drawer of Greenough's Row.
Mark Shore aged 24 years, collier, married of School Lane.
William Waddilove aged 32 years, married of School Lane.
Nicholas Fletcher aged 25 years, collier of Wigan.
Peter Roscoe aged 33 years, married, plate layer of Well's Yard, Wigan.
Thomas Bald aged 20 years, drawer of Stanley Row.
Thomas Mitchell aged 22 years, drawer of Nicholas Nook.
James Rigby aged 28 years, collier, married with one child of Nicholas Nook.
Joseph Rigby aged 26 years of Frankfort Street.
John Ashbrook aged 24 years, collier of Stanley Street.
Patrick McCormick aged 25 years, collier of Stanley Street.
Richard Woodcock aged 37 years, collier, married with three children of Stanley Street.
Robert McAllister aged 25 years, drawer of Nicholas Nook.
James Bentham aged 30 years married with two children of Back Ince Lane.
John Balderstone aged 22 years, collier of Bridge Street.
James Balderstone aged 17 years, drawer brother of James and John.
Thomas Balderstone aged 11 years, drawer, brother of James and John.
James Goldring aged 11 years, drawer, of Lowe's Square.
George Barlow aged 24 years, married with one child, collier of Victoria Street, Wallgate.
Matthew Corless aged 29 years, married collier of Hallgate.
Stephen Rowe aged 33 years married with two children of Club Row.
Francis McNaught aged 11 years, pony driver of Ince Green Lane.
John McGowan aged 19 years, drawer of Greenalgh's Row.
Thomas Baxendale aged 29 years, married collier of Ince Green Lane.
Michael McDonough aged 22 years, drawer of Nicholas Nook.
Owen McDonough aged 20 years brother of Michael.
John Markland aged 24 years, collier married with two children of Wellington Street, Scholes.
Edward Lindsay aged 33 years collier married with five children of Wellington Street, Scholes.
James Markland aged 22 years, collier brother of John.
Richard Graham aged 10 years, door tenter of Ashton Street.
William Gerrard aged 10 years, door tenter of School Lane.
Henry Dawber aged 24 years, married with one child of School Lane.
Richard Jackson aged 22 years, drawer Redhouses, Wigan.

Michael Farley aged 22 years, drawer of Black Swan Yard.
Samuel Worthington aged 26 years, married with one child of Frankfort Street.
William Dauber aged 21 years, collier of Schofield Street.
William Yates aged 10 years, door tenter of Birket Bank.
Johnathan Dyson aged 10 years, door tenter of Britannia Bridge.
Martin Tunstall aged 25 years, drawer of Frankfort Street.
Samuel Holding aged 33 years, plate layer, married with one child
Thomas Marsden aged 25 years of Coopers Yard, Scholes.
Charles Benson aged 10 years of Nicholas Nook.
Patrick McCabe aged 20 years of Black Swan Yard.
Edward Fairhurst aged 21 years, married collier of Ince Green Lane.
Richard Bromley aged 50 years, married with six children of Ince Green Lane.
Michael Cunningham aged 20 years of Greenalghs Row.

There was full and detailed inquest into the deaths of the men and the cause of the disaster. When all the evidence had been given the Coroner summed up and the jury retired to consider their verdict-

“We find that the death of the eighty nine persons under consideration was occasioned by an explosion of firedamp within the workings of the Arley Mine of the Ince Hall Colliery, on Saturday, 18th, ultimo. We find the explosion occurred close to Pilkington’s drifts, and was ignited, as we believe, at Pilkington’s shot. The origination of the gas which exploded, we verily, believe, from a sudden and accidental outbreak from some point far from the seat of the explosion and we would point to the fall in Woodcock’s place as the only likely source shown for the emanation of such an outburst. We give it as our opinion that the general management and ventilation of the mine in question, from the time of the lamentable explosion to the present had been satisfactory, and the system of working, under the peculiar circumstances of the pit, uncensurable. Under the circumstances of these awful explosion, we would strongly recommend to the management, that, as far as possible, the use of gunpowder in the working places within the mine should be wholly discontinued.”

After the verdict had been delivered the Coroner commented-

“My own appearance is entirely in concurrence with the whole of the verdict. I beg to congratulate you on the result of this inquiry, and particularly congratulate the management of these works on the result also. I think under all the circumstances they have shown themselves entitled to all consideration, and I hope they felt they have met with it as far as possible in a court of this nature. Another point I would congratulate the on is, that all the bodies were brought out of the pit so soon after the explosion.”

Mr. Mayhew stated that there were several mines of great extent and some worked under conditions of peculiar difficulty and during the past four years, Mr. Darlington had the management, there had not been a single death in them.

Joseph Dickenson sent a letter to the Company dated 11th. May, 1855 which said-

“Having on the 11th. inst. made further inspection of the Arley Pits at the Ince Hall Coal and Cannel Works, and also ascertained particulars as to the additional precautions intended to be taken in carrying on the mine, I beg to submit for your consideration the following observations.

1st. With reference to the recommendations of Messrs Forster and Elliot’s report of the 5th. instant, which may be summed up as follows, viz.

That the air courses be enlarged.

That all the return air be passed through a dumb drift, clear of the furnace.

That the return air from the goaves or large wastes do not pass working places along the main roley ways.

That naked lights and gunpowder be discontinued except in particular places where permitted by the viewer. The shots to be fired by good experienced overmen.

That the lamps have glass cylinders to prevent tobacco being lighted at them.

The first three of these recommendations have my concurrence. The remaining two I consider incomplete. It having been proved that two awful explosions have occurred by firing shots in this mine -- the shot in the latter instance having been fired by one of your most careful and experienced foremen - it seems necessary that gunpowder be entirely prohibited. And with regard to safety lamps, if it be determined to use glass lamps, I think they should be of such construction that the light becomes extinguished when in an explosive atmosphere.

2nd. It appears of importance in a fiery mine dipping at the rate of 1 in 6 or 1 in 7, like the mine in question, that the workings should not extend a certain distance to the rise of the shafts. The rise workings have now reached 500 yards from the shaft levels, or about 70 yards perpendicular above the bottom of the shafts. It is questionable whether this limit be safe, but I am quite satisfied it ought not to be exceeded and it is highly desirable that an air pit be sunk to the rise to relieve it. The point in the Menses property spoken of for an air pit is about 1,100 yards to the rise of the present shaft levels, a distance which should not be attempted uphill, and which is such as to point to the necessity and desirableness of an intermediate pit.

3rd. As the present system of working entails greatly increased risk of explosions, it seems highly important that it should be altered to the most approved system of working in similar seams. Having men getting coal at so many points where the pressure of air is great, and where, if leakage take place, the inner workings may be almost entirely deprived of ventilation. Driving levels to the boundary, and working the coal backwards from the extremities, seems the safest method but if your determination be, as I understand it is, to work the coal forwards as at present, it would add much to the safe working if the working places were confined to near the face of the levels, and not scattered from the pits to the face of the levels, as at present. Keeping the workings in a compact form would enable you to secure the air to the face of the workings by permanent stoppings without the intervention of the numerous doors and crossings."

LUNDHILL. Barnsley, Yorkshire. 22nd. June 1854.

A shaft was being sunk to the Barnsley thick coal and the sinkers had got almost to a coal bed, with which the bottom of the pit communicated by means of a small borehole to let off water. Firedamp had been seen to come from the borehole on frequent occasions from the works in the upper coal bed. On the 22nd. August the gas came out in such force and abundance that it caused an explosion which claimed the lives of six sinkers.

For two or three days before, the underground air passages and the sinking operations had been stopped by a problem with water and, as firedamp was known to be present, more than the usual degree of caution in regard to ventilation and lights was used when the work recommenced. The mining agent, Mr. Pease and the contractor, Mr. Jebson, were absent from their duties and no examination of the sinking pit was made on the morning of the accident. The workmen were left with no directions and took down lighted candles and the firedamp exploded with terrific force.

Those who lost their lives were-

James Batty aged 32 years. banksman.

William Davis aged 50 years, married.

Matthew Thompson aged 50 years

Thomas Jackson aged 48 years.
Noah Ely, aged 52 years.

There were two inquests, one on five of men and another on one who died later from his injuries. At the inquest the court heard that the owners of the colliery had purchased a ventilating engine and air pipes for the express purpose of ventilating the sinking shaft but the agent and the contractor had not used them. Safety lamps had also been provided but the managers did not enforce their use. Mt. Morton, the Inspector commented-

“Nothing was wanted for safety but prudent foresight and diligence of the part of the superintendents whose business it was to see that the materials on the spot were judicially employed, and at the right time.”

At the first inquest the jury decided that the deceased were ‘Accidentally Killed’ adding-

“We acquit the owners of culpability but we are of the opinion that John Jebson, the contractor, ought to have men in whom he can place a little confidence, and to the use of the means of ventilation which as been placed at the his disposal by the proprietors. Of one of the deceased, Noah Heeley, had exercised more caution, the accident might not have occurred.”

Mr. Morton commented-

“A few days afterwards the sixth man died and the second inquest was held at which the jurors exonerated the owners and agents from blame but it was obvious, during the interval between the two inquests, that what the Inspector called ‘unwonted and extraordinary exertions’ were made by the management to shield themselves from an unfavourable verdict. Mr. Sergeant Wilkins was brought down to defend them and he was assisted by another barrister and an attorney and an imposing array of engineering witnesses were retained to give evidence, who saw the works in an altered and much improved state.

The labourers who had survived the blast had been tampered with and were reluctant to answer any questions which seemed to inculcate the overlookers. The jury was selected by the village constable from the immediate vicinity of the colliery and from a class not likely to act independently or to give umbrage to the proprietors. Under such circumstances it was not surprising that the second verdict was not unlike the first.

One of the unfortunate victims said, on being brought out of the pit, *‘we shall have air-pipes put in now.’* and it is almost certain that, if the blowing engine had been employed, and the air pipes fixed in the shaft by the agent and the contractor, as they were intended to be by the owners, or, on the morning of the accident the pit had been examined with a safety lamp before the miners descended, this dreadful calamity would have been avoided.”

FROOD. Wrexham, Denbighshire. 19th. October, 1854.

The colliery was owned by Sparrow, Pearson and Kendrick and seven men met their deaths.

BELLFIELD. Rochdale, Lancashire. 11th. November, 1854.

The colliery was owned by John Knowles and Co. and three men and four boys were killed when a link in the coupling chain at the end of the shaft rope broke and they fell down the shaft.

NEWMARKET. Wakefield, Yorkshire. 11th. November, 1854.

The colliery was owned by Messrs. Charlesworth and six men were killed in an explosion which took place in the Lofthouse Coal Bed which, in the past, had been known to give off large quantities of gas, suddenly, from the floor and roof. The gas came from strata about two feet above and below the floor and roof.

On the day of the accident an unusual volume of gas burst up the 'wide bank' in the north eastern district of the Farm Pit and the ventilation could not dilute the gas. The men were working with naked candles and in the resulting explosion six men lost their lives.

Those who died were-

J. Chadwick,
W. Chadwick,
R. Chadwick,
J. Runder,
P. Palmer and
W. Blackburn.

When the Inspector inspected the workings after the explosion he found that only 3,000 cubic feet of air per minute were passing through this part of the workings although the manager, Mr. Goodinson, assumed that 5,000 cubic feet were passing as it was the duty of his underground steward to see that the actual supply was never less than this. On the day of the disaster the steward had not visited the north east district and had not measured the air currents in any part of the mine.

The ventilating furnace was attended day and night and it was seen that the total amount of air entering the mine was sufficient but the part where the explosion took place did not receive sufficient air. The Inspector recommended that the size of the airways to this district should be increased from thirty square feet to forty square feet and the air ways that led to the 'bank faces' should also be enlarged. It was also advised that the places should be examined every day and the air currents ,measured at least once a week.

The Inspector suggested that the bottom coal should be removed to lessen the risk of sudden outbursts and give more room to transport the coal along the roads and that safety lamps should be used in the mine. Messrs. Charlesworth assured the Inspector that no expense would be spared to put his recommendations into effect.