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**A contemporary account of the disaster has survived in a pamphlet of
'The Liverpool Religious Tract Society', entitled, ' Narrative of a Dreadful Occurrence at
Felling Colliery (Nr. Durham) 25th May 1812.'**

"Felling is situated about a mile and half from Gateshead in the county of Durham. It contains several seams of coal. The present colliery is in the seam called the Lower Main. There are two shafts at the pit. One is called the John pit and is situated on the north side of the Sunderland Road, between felling Hall and the Toll Bar. It was about 200 yards deep. It is used for drawing up coal by means of a fire engine and is furnished with a whim worked by horses, which is useful when the fire engine is unemployed. The other shaft is called the William Pit. It is 350 yards from the John Pit and about 230 yards deep.



Felling pit by Charles Taylor

The mine was considered by the workmen as a model of perfection in the purity of its air and orderly arrangements. The concern wore the features of the greatest prosperity and, except for two others; there workmen being slightly burned, no accident had before occurred. Two shifts or sets of men were employed, twenty five acres of coal having been got. The establishment under the ground consisted of about 128 persons.

The subterranean fire broke forth with two heavy discharges from the John Pit which were almost instantly followed by one from the William Pit. A slight trembling as if from an earthquake was felt for about half a mile round the workings and the noise of the explosion, though dull, was heard three or four miles distant and much resembled the unsteady fire of infantry. Immense quantities of dust and small coal accompanied these blasts and rose high into the air to form an inverted cone. The heaviest part of the matter ejected, such as corves, pieces of wood and small coal, fell near the pits but the dust, borne away on a strong west wind, fell in a continued shower from the pit to a distance of a mile and a half.

In the village of Heworth it caused darkness like that of early twilight and covered the roads so thickly that footsteps of the passengers were strongly imprinted in it. The heads of both the shaft frames were blown off, their sides set on fire and their pulleys shattered into pieces but the pulleys of the John Pit gin, being on a crane not within the influence of the blast, were fortunately preserved. The coal dust ejected from the William Pit into the drift or horizontal part of the tube (i.e. the passage between the pit and the chimney stalk) was about three inches thick and soon burnt to a light cinder.

As soon as the explosion was heard, the wives and children of the men ran to the working pit. Wildness and terror were pictured on every countenance. The crowds from all sides collected to the number of several thousand, some crying out for a husband, a parent or a son and all deeply afflicted with a mixture of grief and horror.

The machine being rendered useless by the eruption, the rope of a gin was sent down the pit with all expedition. A number of men seemed to supply strength proportionate to the urgency of the occasion, put their shoulders to the shaft of the gin and wrought it with astonishing expedition.

By twelve o'clock, thirty two persons, all that survived of this dreadful calamity, were brought up. The dead bodies of two boys, who were miserable, scorched and shattered, were also brought out of the pit at this time. Three boys out of the thirty two who escaped alive, died within a few hours of the accident, so that twenty nine persons remained to relate what they had observed of the appearances and effects of the subterranean thundering. One hundred and twenty one were in the mine when it happened, and eighty seven remained in the workings. Eight persons had come up on different occasions within a short time before the explosion. They who had their friends restored, hastened with them from the dismal scene and seemed to suffer as much from excess of joy as they lately had done from grief. And they, who were yet held in doubt concerning the fate of their relations and friends, filled the air with shrieks and howling, went about wringing their hands and threw their bodies into the most extravagant gestures.

Great apprehension being entertained for the safety of the workmen who remained in the mine, nine persons descended the John Pit, expecting to meet with some of them alive but their progress towards the place where the men had been working was very soon stopped by the prevalence of choke damp. Firedamp will take fire at a candle, in choke one will not burn at all. In order to prevent the former steel mills were used to give light by turning a thin cylinder of steel against a piece of flint but on coming into choke damp, the sparks fell like dark drops of blood so that the mill became useless and breathing extremely difficult.



[Speding Wheel](#)

The probability of their getting to those they were in search of, or finding any of them alive in case they should reach them, was now despaired of.

The certainty of the mine being on fire and the probability of a second explosion burying them in its ruins rendered the case altogether hopeless.

It was recollected that persons had survived similar accidents and when the mine was opened, had been found alive. Also, that in a pit near Byker, three had subsisted on horse beans and candles for forty days.

At two o'clock five persons who had gone down having ascended, two being in the shaft coming up and the other two at the bottom, another explosion, much less severe than the first, excited more frightful expressions of grief amongst the relations of the persons still in the mine. As each party came up, he was surrounded by a group of anxious enquirers. Their reports equally hopeless and their account of the impure state of the mine was corroborated by the second explosion that, for the present, their assertions appeared to obtain credit. But this was only a momentary impression.

Persons not wanting to excite a disbelief in the accounts given by the persons had explored the mine, it was suggested that the relations of the sufferers, that they might be induced by bribery or want of courage to magnify the danger and represent the reaching of the bodies as impossible. Thus the grief of the neighbourhood began to assume an aspect not only too gloomy but irritable. The proposition to endeavour to extinguish the fire excluding the air from the mine was received with cries of 'murder' and with determination to oppose them proceeding.

Many of the widows and other relatives of the sufferers continued about the mouth of the John Pit during the whole night, hoping to hear the voice of a husband, a son or a brother calling for assistance.

On the following day, an immense concourse of colliers assembled from various other collieries. They were profuse in reproaching the persons concerned in the mine with want of exertions to recover the men, each one having some example of successful attempts in cases of this kind to relate, and all professing their readiness to assist but with their profession, none were found that would enter the mine. The mixture of conceits and prejudices common with workmen whose experience has only furnished them with a partial knowledge of the nature and peculiarities of their profession, without being acquainted with the connection between causes and effects, appeared to be the ground for their reasoning's and assertions. As soon as those who led the outcry could be induced to listen patiently to the relation of the appearances attending this accident and the assigned reasons for concluding that the mine was on fire and that the persons in it dead, they seemed to allow that to reach the bodies of the sufferers till the fire should be extinguished was practicable.

The proprietors of the mine gave the strongest assurances to the crowd, that if any project could be framed for the recovery of the men, no expense should be spared in expecting it and if any person could be found who was willing to enter the mine, every facility and help should be afforded him but as they were assured by several of the most eminent viewers in the neighbourhood that the workings of the mine were in an unapproachable state and that any further attempt to explore it would hold out in reward for the undertaking, they would not be an accessory to any man's death by persuasion of a bribe.

On the 27th of May, at the clamorous solicitation of the people, two persons again descended the John pit, in order to ascertain the state of the air in the workings. Immediately under the shaft they found a mangled horse in which they supposed they perceived signs of life but they had advanced about six or eight yards before the sparks of the flint were extinguished in the choke damp and the men who played the mill began to show the effects of the poison by faltering in his steps. The other therefore laid hold of him and supported him to the shaft. As the baneful vapours had now taken possession of the whole of the mine and they found it difficult to breath, even in the course of the atmospheric air, they immediately ascended but the afflicted creatures to whom they told their tale, still clinging to hope, disbelieved their report.

Wishful therefore, to give as ample satisfaction as possible to the unhappy women, two other persons again went down. At thirty fathoms from the bottom, they found the air exceedingly warm. To exist without apoplectic symptoms for more than a few yards round the bottom of the shaft was found impossible and even there, the air was so contaminated as to be unfit for breathing. When they ascended, their clothes emitted a smell somewhat resembling the waters of Gilsand and Harrowgate but more practically allied to that of the turpentine distilled from coal tar.

The report of these last adventures partially succeeded in convincing the people that there was no probability of any sign of their friends being found alive. Some, indeed went away silent but not satisfied. Others, with pitiable importunity besought that measures to recover their friends might even yet be adopted and persevered in and many, as if in grief and rage had some necessary connection, went away loading the conductors of the mine with execrations and threatening revenge. Some were even heard to say, that they could have borne their loss with

fortitude, had none of the workmen survived the calamity. They could have been consoled if all their neighbours had been rendered as miserable and destitute as themselves.

For such a multitude, unanimity of sentiment could not be expected. No scheme of proceedings could be invented to meet with the approbation of all the men. In the evening of this day it was therefore resolved to exclude the air from then entering the workings in order to extinguish the fire which the explosion had kindled in the mine and of which the smoke ascending the William Pit was a sure indication. Measures affecting it were accordingly taken and after experiencing various disappointments from sundry accidents, they ultimately succeeded.

When the preparations were being made for the reopening of the mine, many idle tales circulated through the country concerning several of the men finding their way to the shafts and being recovered. Their number was circumstantially told, how they subsisted on candles, pats and beans, how they heard the persons who visited the mine on the day following the accident and the Wednesday following but were too feeble to speak sufficiently loud to make themselves heard. Some conjurer to, it is said, had set spells and divinations to work and penetrated the whole secrets of the mine.

It was reported he had discovered one famishing group receiving drops of water from the roof of the mine, another eating their shoes and clothes and other such tales of misery. These inventions were carefully related to the widows and answered the purpose of every day harrowing up their sorrows afresh. Indeed, it seemed the chief employment of some to make a kind of insane sport of their own and their neighbour's calamity. On the morning appointed for the entering of the workings, (the mine having been previously opened) the distress of the neighbourhood was again renewed at an early hour. A great concourse of people collected, some out of curiosity, some to stir up revenge and aggravate the sorrows of relatives of the sufferers by calumnies and reproaches, published for the sole purpose of mischief but the greater part came with broken hearts and streaming eyes in expectation of seeing a father, a husband or son, brought out of the horrible pit.

At As the weather was warm, and it was desirable that as much air as possible might pass down the shaft, constables were placed at proper distances to keep off the crowd. Two surgeons were also in attendance in case of accidents. At six o'clock in the morning eight persons descended the William Pit and began to explore the workings. As a current of water had been constantly diverted down this shaft for the space of ten hours, the air was found to be perfectly cool and wholesome. Light was now procured from steel mills. As the explosions had occasioned several falls of large masses of stone from the roof, the removing of



Felling pit by Charles Taylor

them caused considerable delay.

They found, however, one of the bodies. When this corpse was to be lifted into a coffin, the men stood over it in speechless horror. They imagined it was in so putrid a state that it would fall asunder by lifting. At length they encouraged each other to begin and after several hesitations and resolutions, they laid it in a coffin which was conveyed to the shaft in a bier made for the purpose and drawn to the bank in a net made of strong cords.

The shifts of men employed in this doleful and unwholesome work, were generally about eight in number. They were four hours in and eight hours out of the mine, each individual therefore wrought two shifts every twenty four hours. When the first of the men came up at ten o'clock, a message was sent for a number of coffins to be in readiness at the point. These, to the number of ninety two (a most gloomy sight) being at the joiners shop, piled in a heap, had to pass by the village of Low Felling. As soon as the cart load of them was seen, the shrieks of the women, who hitherto continued in their houses but now began to assemble about their doors, came on the breeze in slow fitful gusts which presaged a scene of much distress and confusion being soon exhibited near the pit but happily by preventing to them the shocking appearance of a body that had been found, and the ill effects on their own bodies and minds likely to ensue from sufferings themselves, to be hurried away by such violent convulsions of grief, they either returned to their own houses or continued in silence in the neighbourhood of the pit.

Every family had made provision for the entertainment of their neighbours on the day the bodies of their friends were received and it had been generally given out that they intended to take the bodies to their own houses but Dr Ramsey, having given his opinion that if such a proceeding, if carried into effect, might spread a putrid fever through the neighbourhood, and the first body when exposed to observation having a most horrid and corrupt appearance, they readily agreed to have them interred immediately after they were found. Permission, therefore, was given to let the hearse, on its way to the chapel yard, pass by the door of the deceased.

From 8th July to the 19th. September, the heart rending scene of mothers and widows examining the putrid bodies of their sons and husbands, for marks by which to identify them, was almost daily renewed but very few of them were known by any personal mark.

They were too much mangled and scorched to retain any of their features. Their clothes, tobacco boxes, shoes and the like were therefore the only marks by which they could be recognised. All the bodies except one were found. Except four, whoever buried in single graves, the remains were interred in Heworth Chapel yard in a trench side by side, two coffins deep with a partition of brick and lime between every four coffins. Those entered an unknown in the burial register have had their names added to them since the search was discontinued."

The Reverend Hodgson offered consolation to the relatives of the victims and conducted the burial services. Being close to the pitmen and their families, he knew the dangers of coal mining. The papers of the time were reluctant to print accounts of colliery disasters and Hodgson, against the feelings of the coal owners, set out to make the Felling Disaster as widely known as possible with the hope of getting expert help in preventing similar disasters. He wrote

for many weeks on the 'Newcastle Courant' with an account of the disaster and plans to show how the mine was ventilated. This was published on 4th January, 1813 and was widely circulated. Unknown to Hodgson it was printed in 'Dr Thompson's Annals of Philosophy' and read by Mr J.J. Wilkinson, a barrister of the Temple who, during his long vacation in 1813, he went to the north of England and consulted with his friends on the matter of safety in mines.

On 1st. September, 1813, he published proposals for a ‘ *Society for the prevention of Accidents in Coal Mines* ’. The proposals came to the notice of the Bishop of Durham who wrote to the Reverend Dr Gray, who was Rector of Bishopsweirmouth, giving him permission to form such a society. A meeting was held at Sunderland on the 1 set October 1813 when the Society was instituted and Committee appointed to carry out its objectives. The work of the Committee led to Davy developing his [safety lamp](#).

Felling Explosion 1812

92 men and boys including two boys 7 and 8 years of age

Andrew	Allen	aged 11	Trapper
Jacob	Allen	aged 14	Putter
Phillip	Allen	aged 17	Putter
Joseph	Anderson	aged 23	Putter
George	Bainbridge	aged 10	Putter
Matthew	Bainbridge	aged 19	Putter
Thomas	Bainbridge	aged 17	Putter
Thomas	Bainbridge	aged 53	Hewed
Thomas	Bears	aged 48	Hewed
Edward	Bell	aged 12	Putter
George	Bell	aged 14	Putter
John	Boutland	aged 46	Hewer
William	Boutland	aged 19	Crane On-setter
Matthew	Brown	aged 28	Hewer
John	Burnitt	aged 21	Hewer
James	Comby	aged 28	Hewer
Thomas	Craggs	aged 36	Hewer
Thomas	Craggs	aged 9	Trapper
James	Craigs	aged 13	Wagon Driver
Christopher	Cully	aged 20	Putter
George	Cully	aged 14	Trapper
William	Dixon	aged 35	Hewer
William	Dixon	aged 10	Wagon Driver
John Archibald	Dobson	aged 15	Trapper
Robert	Dobson	Young boy	Trapper
Robert	Dobson	aged 13	Trapper

Paul	Fletcher	aged 22	Hewer
Gregory	Galley	aged 10	Trapper
William	Galley	aged 22	Putter
Michael	Gardiner	aged 45	Hewer
William	Gardiner	aged 10	Trapper
Joseph	Gordon	aged 10	Trapper
Robert	Gordon	aged 40	Hewer
Thomas	Gordon	aged 8	Trapper
Isaac	Greener	aged 65	Hewer
Isaac	Greener	aged 24	Hewer
John	Greener	aged 21	Hewer
Ralph	Hall	aged 18	Putter
Robert	Hall	aged 13	Putter
John	Harrison	aged 12	Wagon Driver
Ralph	Harrison	aged 39	Horse Keeper
Robert	Harrison	aged 14	Wagon Driver
Edward	Haswell	aged 20	Hewer
Henry	Haswell	aged 18	Putter
John	Haswell	aged 22	Hewer
Robert	Haswell	aged 42	Hewer
John	Hunter	aged 21	Hewer
Michael	Hunter	aged 8	Trapper
William	Hunter	aged 35	Deputy
Robert	Hutchinson	aged 11	Trapper
John	Jacques	aged 14	Putter
William	Jacques	aged 23	Putter
George	Kay	aged 16	Putter
James	Kay	aged 18	Putter
John	Knox	aged 11	Trapper
George	Lawton	aged 14	Lamp-Keeper
Robert Gray	Leck	aged 16	Putter
Christopher	Mason	aged 34	Hewer
George	Mitcheson	aged 18	Putter
Edward	Pearson	aged 14	Putter
George	Pearson	aged 26	Hewer
John	Pearson	aged 64	Hewer
John	Pearson	aged 58	Shifter
Robert	Pearson	aged 10	Trapper
Joseph	Pringle	aged 16	Putter
Matthew	Pringle	aged 18	Putter

George	Reay	aged 9	Trapper
Edward	Richardson	aged 39	Hewer
Thomas	Richardson	aged 17	Putter
William	Richardson	aged 19	Putter
George	Ridley	aged 11	Wagon Driver
Thomas	Ridley	aged 13	Putter
George	Robson	aged 15	Putter
Thomas	Robson	aged 18	Putter
Matthew	Sanderson	aged 33	Hewer
William	Sanderson	aged 43	Hewer
John	Surtees	aged 12	Trapper
Benjamin	Thompson	aged 17	Craneman
John	Thompson	aged 36	Hewer
Jeremiah	Turnbull	aged 43	Hewer
John	Turnbull	aged 27	Hewer
Nicholas	Urwin	aged 58	Braking inclined plane
John	Wilkinson	aged 35	Hewer
Charles	Wilson	aged 20	Hewer
John	Wilson	aged 32	Hewer
John	Wilson	aged 30	Hewer
Joseph	Wilson	aged 25	Hewer
John	Wood	aged 27	Hewer
Joseph	Wood	aged 39	Hewer
Joseph	Young	aged 30	Putter
Thomas	Young	aged 30	Trapper

A DESCRIPTION OF FELLING COLLIERY,

Previous to May 25, 1812

FELLING is a manor in the chapelry of Heworth, and parish of Jarrow, about a mile and a half east of Gateshead, in the county of Durham. It has been a possession of the Brandlings, of Gosforth, since about the year 1590. It contains several strata of coal, the uppermost of which were extensively wrought in the beginning of the last century. The stratum called the High-main, was won in 1779, and continued to be wrought till the 19th January, 1811, when it was entirely excavated the present colliery is in the seam called the Lowmain. It commenced in October, 1810, and was at full work in May, 1811. Messrs John and William, Brandling, Henderson, and Grace have each a fourth share, both in its royalty and in the adventure: they have also a lease from the Dean and Chapter of Durham, of a large extent of coal, lying on the south and east of the manor of Felling.

The working or down-cast shaft, marked A on the annexed plan*, is called the

John Pit, and is situated on the north side of the Sunderland road, and half way between Felling Toll-bar and Felling Hall. It is 204 yards deep, and furnished with a machine or steam-engine for drawing the coal, and with an engine called a whim gin, wrought by horses, and of use in letting down and drawing up the workmen, when the machine chanced to be crippled, or repairing: and when it lies idle on pay Saturdays and on Sundays. Here is also a high tube of brick-work, employed in assisting ventilation while this shaft was sinking, and till the communication by the narrow boards and the drifts was opened between the two shafts: since that it has been of no use

The up-cast, or air furnace shaft, is called the William Pit.. It is on an eminence 550 yards southwest of the John Pit, and is distinguished by a whim gin and a lofty tube of brick-work. This shaft is 232 yards deep. Over each pit two iron pullies were suspended on a kind of scaffold, called the shaft-frame. In these ran the ascending and descending ropes. The pullies over the John Pit were six feet in diameter, and weighed nine cwt. a-piece. Those in which the rope of the gin of the John Pit ran, were fixed on a crane, which turned them over or from the shaft as occasion required.

As there are no feeders of water in the strata below the high main, the low main coal is kept perfectly dry by tubbing the watery seams with a circular casing of oak wood, formed into pieces resembling the felloes of a wheel: this contrivance has the appearance of the ashlar work of a well, and saves the expense of a steam-engine for drawing water.

The white lines on the plan represent the excavated parts: the broadest of them are called boards and those that cross them at right angles are walls. The two narrow lines which run north and south, on the east side, are called double winning head-ways, and the narrow lines between them, stentings. The two lines on the west side of the William Pit are also double winning head-ways.

The two boards on the north are termed the narrow boards: they were the parts first excavated, and were made for the purpose of opening a communication for the atmospheric air between the two pits: the lines between the west end of the narrow boards and the William Pit, are called drifts. The inclined plane board is marked P.P. on the plan.

The parallelograms formed by the boards and walls, are called pillars: they are solid masses of coal left to support the roof of the mine, and are each twenty-six yards long, and eight yards broad. The single black lines in the walls and stentings represent stoppings, and the double lines trap-doors, each of which are placed to divert the current of atmospheric air through proper channels. The stoppings are made of brick and lime; and in this colliery, were strengthened on each side with a wall of stone. The trap-doors are made of wood: each of them is attended by a boy about seven, eight, or ten years old; and they are seldom used but in the avenues leading from the working shaft to the workings.

At the circle N, the air crossed the waggon-way, and at M, the way to the stable, over arches of brick. The walls which have stoppings in them, are called sheth-walls, and those that are open,

loose-walls. In all large collieries the air is accelerated through the workings, by placing a large fire, sometimes at the bottom, and sometimes at the top of the up-cast shaft, which in these cases is covered over and connected with a furnace tube or chimney, by an arched gallery of brick from 40 to 60 feet in length. In this colliery the furnace was about six feet from the bottom of the tube. The first course of the air, after descending the John Pit, was under the arch M, up the inner narrow board and the stable board S, to the trap-door at the head of the narrow boards; then down the board next south of the stable board; and so afterwards up two boards and down other two, till it traversed the newly formed sheth or set of workings, branching from the southernmost part of the double headways on the east: from thence it passed over the two arches up the other board of the narrow boards, to the most westerly sheth of boards, and after fanning them, found its way down the crane board, along the drift to the William Pit, through which it ascended into the furnace, and thence, charged with noxious vapours, into the open air.

From this explanation it will easily be perceived that purity and wholesomeness of a coal-mine has no reference to its depth. If the air be conducted through all parts of a mine, as here described, and no falls from the roof occur to prevent its visiting every corner, the old excavations, which are called wastes, will be constantly ventilated by as pure air as the boards in which the men are at work - each part of the mine will be uniformly wholesome; but when obstructions occur, and are not speedily removed; when the fire in the furnace shaft is neglected; or when care has not been taken to place the stoppings and trap-doors in proper places, or the trap-doors are carelessly left open, or stoppings fall down, in all these cases accumulations of fire-damp, or hydrogen gas, (called stythe by the colliers) immediately commence in places deprived of the atmospheric current, and continue to train their dreadful artillery, and grow strong in danger, till the wastemen, or ventilators of the mine, discover them, and wash them off, or they ignite at the workmen's candles.

Blasts occurring in partial stagnations, as in the face of one or two boards, though they generally scorch the persons in their way, they seldom kill them; but when the air has proceeded lazily for several days through a colliery, and an extensive magazine of fire-damp is ignited in the wastes, then the whole mine is instantly illuminated with the most brilliant lightning - the expanded fluid drives before it a roaring whirlwind of flaming air, which tears up everything in its progress, scorching some of the miners to a cinder, burying others under enormous heaps of ruins shaken from the roof, and, thundering to the shafts, wastes its volcanic fury in a discharge of thick clouds of coal dust, stones, timber, and not infrequently limbs of men and horses.

But this first, though apparently the most terrible, is not the most destructive effect of these subterraneous thunderings. All the stoppings and trap-doors of the mine being blown down by the violence of the concussion, and the atmospheric current being for a short time entirely excluded from the workings, those that survived the discharge of the fire-damp, are instantly suffocated by the after-damp, which immediately fills up the vacuum caused by the explosion. Where persons suffering this kind of suspended animation, are in situations that can be visited immediately after the eruption ceases, and the air is again suffered to enter the workings, they have frequently been brought up and restored to life by means similar to those recommended by the Humane Society; but as the air, after the stoppings are blown down, always passes from

shaft to shaft through the direct avenues it can find, and as neither lights will burn nor man can breathe in places deprived of its visits, all attempts to save the persons lying out of its track would not only be ineffectual, but fatal to the lives of the persons entering upon so dangerous, though benevolent an enterprise.

This after-damp is called choke-damp and surfeit by the colliers, and is the carbonic acid gas of chemists. While the mine is at work, it lies sluggishly upon its floor, and suffers the atmospheric air, as a lighter fluid, to swim upon it: fire-damp being the lightest of the three, floats upon the atmospheric air, and therefore occupies a space, according to its present quantity, nearest the roof of the mine. The coals from the boards on each side of the William Pit, were conveyed in strong wicker baskets called corves, to the crane, on trams, a narrow framework of wood mounted on four low wheels: this work was done by putters and barrow-men, the former pulling before, and the latter putting or thrusting behind: boys about fifteen or sixteen years old are employed in this department of the colliery.

The crane, at the time of the accident, stood eleven pillars up the crane-board: it had been removed from the several pillars which have their uppermost corner canted off, and a period fixed in the vacancy. The use of the crane is to lift the laden corves off the trams, upon waggons which differ little from the trams, except in their being larger and stronger. From the crane, about four waggons, each carrying two corves and chained together, were taken to the bottom of the crane-board near number 86, by the machine, called an inclined-plane, which draws up the empty waggons by the weight of the laden ones: the person who regulates this machine, is called a brake-man.

From the bottom of the inclined-plane, the coals were conveyed on the same waggons to the John Pit. This mine was considered by the workmen a model of perfection in the purity of its air, and orderly arrangements - its inclined plane was saving the daily expense of at least thirteen horses - the concern wore the features of the greatest possible prosperity, and no accident, except a trifling explosion of fire damp, slightly burning two or three workmen, had occurred. Two shifts or sets of men were constantly employed, except on Sundays. Twenty-five acres of coal had been excavated. The first shift entered the mine at four o'clock .a m and were relieved at their working posts by the next at eleven o'clock in the morning. The establishment it employed underground, as will be seen in the succeeding narrative, consisted of about one hundred and thirty persons, who, in the fortnight from the eleventh to the Twenty fifth of May, 1812, wrought 624 scores of coal, equal to 1300 Newcastle chaldrons, or 24520/36 London chaldrons, (Equivalent to 3500 tonnes.)

Account of the Accident and of the Recovery of the Bodies of the Sufferers.

About half past eleven o'clock on the morning of the 25th May, 1812, the neighbouring villages were alarmed by a tremendous explosion in this colliery. The subterraneous fire broke forth with two heavy discharges from the John Pit, which were, almost instantaneously, followed by one from the William Pit. A slight trembling, as from an earthquake, was felt for about half a mile around the workings; and the noise of the explosion, though dull, was heard to three or

four miles distance, and much resembled an unsteady fire of infantry. Immense quantities of dust and small coal accompanied these blasts, and rose high into the air, in the form of an inverted cone. The heaviest part of the ejected matter, such as corves, pieces of wood, and small coal, fell near the pits; but the dust, borne away by a strong west wind, fell in a continued shower from the pit to the distance of a mile and a half. In the village of Heworth, it caused a darkness like that of early twilight, and covered the roads so thickly, that the footsteps of passengers were strongly imprinted in it.

The heads of both the shaft-frames were blown off, their sides set on fire, and their pullies shattered in pieces; but the pullies of the John Pit gin, being on a crane not within the influence of the blast, were fortunately preserved. The coal dust, ejected from the William Pit into the drift or horizontal parts of the tube, was about three inches thick, and soon burnt to a light cinder. Pieces of burning coal, driven off the solid stratum of the mine, were also blown up this shaft.

As soon as the explosion was heard, the wives and children of the workmen ran to the working-pit. Wildness and terror were pictured in every countenance. The crowd from all sides soon collected to the number of several hundreds, some crying out for a husband, others for a parent or a son, and all deeply affected with an admixture of horror, anxiety, and grief.

The machine being rendered useless by the eruption, the rope of the gin was sent down the pit with all expedition. In the absence of horses, a number of men, whom the wish to be instrumental in rescuing their neighbours from their perilous situation, seemed to supply with strength proportionate to the urgency of the occasion, put their shoulders to the starts or shafts of the gin, and wrought it with astonishing expedition. By twelve o'clock, 33 persons, all that survived this dreadful calamity, were brought to day-light. The dead bodies of two boys, numbers one and four, who were miserably scorched and shattered, were also brought up at this time: three boys, viz. numbers two, three and five, out of the 33 who escaped alive, died within a few hours after the accident.

Only thirty persons were, therefore, left to relate what they observed of the appearances and effects of this subterraneous thundering. One hundred and twenty-two were in the mine when it happened, and eighty seven remained in the workings. One Overman, two wastemen, two deputies, one headsman or putter, (who had a violent toothache) and two masons, in all eight persons, came up at different intervals, a short time before the explosion. This eruption, though a very feeble representation of the subterraneous labours of Mount Ætna, naturally enough brings to mind the description of that volcano by Pindar,* Lucretius,† Virgil,‡ Aulus Gellius,§ and others. The poets tell us that Jupiter having conquered the giants, threw Enceladus, the son of Titan and Terra, upon the island of Trinacria, or Sicily, and, to prevent his future rebellion, loaded him with mount Ætna, Virgil's description is taken from Pindar's, and the following is nearly a literal translation of it.

From frightful ruins Etna's thunders rise.

Now sable clouds discharging to the skies;
Smoking with pitchy wheel and red hot coals,
It licks the skies or casts out flaming balls;
now belching lifts up rocks, and bowels torn
of mountain; melted stones, with heavy groan,
it rolleth out, and roaring boils below.

They who had their friends restored, hastened with them from the dismal scene, and seemed for a while to suffer as much from the excess of joy as they had lately done from grief; and they who were yet held in doubt concerning the fate of their relations and friends, filled the air with shrieks and howling's; went about wringing their hands; and threw their bodies into the most frantic and extravagant gestures.

The persons who now remained in the mine, had all been employed in the workings to which the planeboard was the general avenue, and as none had escaped by that way, the apprehension for their safety began to strengthen every moment. At a quarter after 12 o'clock, Mr Straker, Mr Anderson, William Haswell, Edward Rogers, John Wilson, Joseph Pearson, Henry Anderson, Michael Menham, and Joseph Greener, therefore descended the John Pit, in expectation of meeting with some of them alive.

As the fire-damp would have instantly ignited at candles, they lighted their way by steelmills, small machines which give light by turning a plain thin cylinder of steel against a piece of flint.

Knowing that a great number of the workmen would be at the crane when the explosion happened, they attempted to reach it by the plane-board: (marked P.P. on the map) but their progress was intercepted by the 2d pillar by the prevalence of choke-damp: the noxious fluid filled the board between the roof and the thill; and the sparks from the flint fell into it like dark drops of blood. Being, therefore, deprived of light, and nearly poisoned for want of atmospheric air, they retraced their steps to the shaft, and with similar success attempted to pass up the narrow-boards: in these they were stopped at the sixth pillar by a thick smoke which stood like a wall the whole height of the board. Here their flint-mills were not only rendered useless, and respiration became extremely difficult, but the probability of their even reaching the places where they expected to meet with those they were in search of, or of finding any of them alive, was entirely done away. To the hopelessness of success in their enterprise should also be added, their certainty of the mine being on fire, and the probability of a second explosion at every moment occurring and burying them in its ruins.

At two o'clock Mr Straker and Mr Anderson had just ascended the John Pit, and were gone to examine the appearance of the air issuing from the William Pit. Menham, Greener, and Rogers, had also ascended. Two of the party were at this moment in the shaft, and the other two remained below, when a second explosion, much less severe than the first, excited more frightful expressions of grief and terror amongst the relatives of the persons still in the mine. Rogers and Wilson, the persons in the shaft, experienced little inconvenience by the eruption: they felt an unusual heat, but it had no effect in lifting up their bodies, or otherwise destroying the uniformity of the motion of their ascent. Haswell and H. Anderson, hearing its distant growling, laid themselves down at full length on their faces, and in this posture, by keeping firm hold of a strong wooden prop, placed near the shaft, to support the roof of the mine, experienced no other inconvenience from the blast, than its lifting up their legs and poisoning their bodies in various directions, in the manner that the waves heave and toss a buoy at sea.

As soon as the atmospheric current returned down the shaft, they were drawn to bank. This expedient of lying down and suffering the fury of the blast to roll over them is mentioned in the Life of Lord Keeper North, under the year 1676. It is most efficacious where the mine is wet, for atmospheric air always accompanies running water; but the warning of a blast being usually sudden, it requires a degree of experience and coolness, not commonly united, to exercise any precaution against it. The miner knowing its irresistible power, instantly sees the inefficacy of every attempt to escape, and, like a physician attacked by some incurable complaint, and, conscious that his art is unequal to its cure, makes no struggle to save his life.

Mr Straker was viewer of the colliery; Haswell was its Overman, and had three brothers; Wilson was a wasteman, and had three sons; Pearson had his father and two brothers; Rogers was a deputy, and had several near relations in the mine. H. Anderson went down with strong confidence that he would be able to reach his partner, number eighty-seven. Pearson, Rogers, and H. Anderson, had also escaped from the first explosion. These all entered the pit from a combination of motives - from duty, humanity, parental, or brotherly affection. Greener was keeper of the adjoining toll-bar, and had his father, two brothers, a brother-in-law, and two nephews. Mr Anderson and M. Menham hazarded their lives from the single and meritorious motive of assisting to rescue a number of their fellow creatures from death.

As each of the party came up, he was surrounded by a group of anxious enquirers. All their reports were equally hopeless; and the second explosion so strongly corroborated their account of the impure state of the mine, that their assertions for the present seemed to be credited. But this impression was only momentary. On recollection, they remembered that persons had survived similar accidents, and when the mine was opened, been found alive. Three had been shut up during forty days in a pit near Byker, and all that period had subsisted on candles and horse beans.

Persons too, were not wanting to infect the minds of the relatives of the sufferers with disbelief in the accounts of the persons who had explored the mine. It was suggested to them that want of courage, or bribery, might be inducements to magnify the danger, and represent the impossibility of reaching the bodies of the unfortunate men. By this species of wicked industry, the grief of the neighbourhood began to assume an irritable and gloomy aspect. The proposition to exclude the atmospheric air from the mine, in order to extinguish the fire, was therefore received with the cries of "Murder," and with determinations of opposing the proceeding. Many of the widows continued about the mouth of the John Pit during the whole of Monday night, with the hope of hearing the voice of a husband or a son calling for assistance.

On Tuesday the 26th May, the natural propension of the human mind to be gratified with spectacles of horror was strongly exemplified. An immense crowd of colliers from various parts, but especially from the banks of the river Wear, assembled round the pits, and were profuse in reproaches on the persons concerned in the mine, for want of exertion to recover the men. Ever one had some example to relate of successful attempts in cases of this kind, - all were large in their professions of readiness to give assistance; but none were found to enter the inflammable jaws of the mine. Their reasoning's and assertions seemed indeed to be a mixture of those prejudices and conceits which cleave to workmen whom experience has afforded a

partial insight into the nature and peculiarities of their profession, and not to be grounded on any memory of facts, or to result from a knowledge of the connection between causes and effects: and on this account, as soon as the leaders of the outcry could be brought to listen with patience to a relation of the appearances that attended this accident, and to hear the reasons assigned for the conclusion that the mine was on fire, and that the persons remaining in it were dead, they seemed useless, and respiration became extremely difficult, but the probability of their even reaching the places where they expected to meet with those they were in search of, or of finding any of them alive, was entirely done away. To the hopelessness of success in their enterprise should also be added, their certainty of the mine being on fire, and the probability of a second explosion at every moment occurring and burying them in its ruins.

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On Tuesday the 26th May, An immense crowd of colliers from various parts, but especially from the banks of the river Wear, assembled round the pits, and were profuse in reproaches on the persons concerned in the mine, for want of exertion to recover the men. Everyone had some example to relate of successful attempts in cases of this kind, - all were large in their professions of readiness to give assistance; but none were found to enter the inflammable jaws of the mine. Their reasoning's and assertions seemed indeed to be a mixture of those prejudices and conceits which cleave to workmen whom experience has afforded a partial insight into the nature and peculiarities of their profession, and not to be grounded on any memory of facts, or to result from a knowledge of the connection between causes and effects: and on this account, as soon as the leaders of the outcry could be brought to listen with patience to a relation of the appearances that attended this accident, and to hear the reasons assigned for the conclusion that the mine was on fire, and that the persons remaining in it were dead, they seemed to allow the impracticability of reaching the bodies of the sufferers, till the fire was extinguished, and consequently the necessity of smothering it out by excluding atmospheric air from the mine.

The proprietors of the mine gave the strongest assurances to the crowd, that if any project could be framed for the recovery of the men, no expense should be spared in executing it; if any person could be found to enter the mine, every facility and help should be afforded him; but, as they were assured by the unanimous opinion of several of the most eminent viewers in the neighbourhood, that the workings of the mine were in an unapproachable state, they would hold out no reward for the attempt: they would be accessory to no man's death by persuasion or a bribe. The mouth of the John Pit had continued open since the accident: the William Pit was today almost wholly muzzled with planks.

On Wednesday the 27th of May, at the clamorous solicitation of the people, Mr Straker and the Overman again descended the John Pit, in order to ascertain the state of the air in the workings. Immediately under the shaft they found a mangled horse, in which they supposed

they perceived some signs of life; but they had only advanced about six or eight yards, before the sparks of the flint were extinguished in the choke-damp, and Haswell, who played the mill, began to show the effects of the carbonic poison, by faltering in his steps. Mr Straker therefore laid hold of him, and supported him to the shaft. As the baneful vapours had now taken possession of the whole of the mine, and they found it difficult to breathe even in the course of the full current of the atmospheric air, they immediately ascended.

But the afflicted creatures, still clinging to hope, disbelieved their report. Wishful, therefore, to give as ample satisfaction as possible to the unhappy women, Mr Anderson, and James Turnbull (a Hewer of the colliery, who had escaped the blast) again went down. At thirty fathoms from the bottom they found the air exceedingly warm: to exist without apoplectic symptoms for more than a few yards round the bottom of the shaft, was found impossible, and even there the air was so contaminated, as to be nearly irrespirable.

When they ascended, their clothes emitted a smell somewhat resembling the waters of Gilsland and Harrowgate, but more particularly allied to that of the turpentine distilled from coal tar. The report of these last adventurers partly succeeded in convincing the people that there was no possibility of any of their friends being found alive. Some, indeed, went away silent, but not satisfied; others with pitiable importunity besought that measures to recover their friends might even yet be adopted and persevered in; and many, as if grief and rage had some necessary connection, went about loading the conductors of the mine with execrations, and threatening revenge. Some were even heard to say they could have borne their loss with fortitude had none of the workmen survived the calamity: they could have been consoled had all their neighbours been rendered as miserable and destitute as themselves!

From such a multitude of distracted women, unanimity of sentiment could not be expected - no scheme of proceedings could be invented fortunate enough to meet with the approbation of them all. In the evening of this day it was, therefore, resolved to exclude the atmospheric air from entering the workings, in order to extinguish the fire which the explosion had kindled in the mine, and of which the smoke ascending the William Pit was a sure indication. This shaft was accordingly filled with clay about seven feet above the ingate or entrance from the shaft into the drift; and the John Pit mouth was covered over with loose planks.

On Thursday the 28th of May, both the pits continued in the state they were left in on the preceding evening; but early on the morning of the 29th twenty fothers (cartloads) of additional thickness in clay were thrown into the William Pit, in order to insure its being air tight; and on the same day, a scaffold, at twenty-five fathoms and a half from the surface, was suspended on six ropes, each six inches in circumference, in the John Pit. Upon this, ten folds of straw were thrown, and twenty-six fothers of clay; namely, fifteen fothers on Friday, five on Saturday, and six on Sunday; on which day the scaffold was found sufficiently air tight, by its holding the water poured upon it.

On the first of June, one of the ropes of the scaffold gave way, and on the next day, about five

o'clock in the afternoon, the whole of it fell to the bottom of the pit. Immediately after this a second scaffold was suspended; but when eight fothers of clay had been thrown upon it, it also broke its ropes and fell to the bottom, about eight o'clock on the evening of the same day. At ten o'clock another expedient was resorted to: three beams of timber were laid across the mouth of the shaft, a little below the surface, and these were traversed with strong planks, upon which, on that evening, and early next morning, a body of clay was laid four feet thick, and firmly beaten together. At the same time a ten inch stopping of brick and lime was put into the tube drift of this shaft: this drift had long been closed, but the additional stopping was added, for greater security against the fire damp escaping. Preparations now began to be made for re-opening the mine. For this purpose a brattice or partition of thin deals, (wooden planks), began to be put down the William Pit; of which and its furnace-tube and whim-gin, the annexed figure is a section. The black line down the shaft represents the brattice, which, in this case was made to assist the workmen in raising the clay thrown down the shaft on the 27th and 29th May.

About this time many idle tales were circulated through the country concerning several of the men finding their way to the shafts, and being recovered. Their number was circumstantially told - how they subsisted on candles, oats, and beans - how they heard the persons, who visited the mine on the day of the accident, and the Wednesday following, but were too feeble to speak sufficiently loud to make themselves heard. Some conjurer, too, it was said, had set his spells and divinations to work, and penetrated the whole secrets of the mine. He had discovered one famishing group receiving drops of water from the roof of the mine - another eating their shoes and clothes, and other such pictures of misery. These inventions were carefully related to the widows, and answered the purpose of every day harrowing up their sorrows afresh. Indeed, it seemed the chief employment of some to make a kind of insane sport of their own and their neighbours' calamity.

On the nineteenth of June, it was discovered that the water oozing out of the tubbing of the William Pit, had risen to the height of twenty-four feet upon the clay. On the third of July, this being all overcome, the brattice finished, and a great part of the clay drawn up, the sinkers began to bore a crowhole at O, out of the shaft into the north drift. On the next day, the stoppings in the tube drift of the John Pit were taken down, and the bore-hole finished, through which the air passed briskly into the mine, and ascended by the John Pit tube. Some experiments made on the fire-damp, by collecting it in bladders in the John Pit tube, before the bore-hole was opened, proved that it would not ignite previous to its mixture with atmospheric air. This shaft became an up-cast at three in the afternoon of the fifth of July; at seven on the same day, the fire-damp exploded on its being exposed to the flame of a candle. From the sixth to the eighth, it continued in the same state, and after that became so saturated with atmospheric air, as to lose that property.

On the seventh of July, the workmen pierced through the clay in the William Pit into the drift; and at forty-five minutes past eleven in the morning, the John Pit tube emitted a thick continued volume of vapour, alternately of a blackish and a grey colour: at five in the afternoon, it was of a light steam colour and the next morning scarcely visible. The morning of Wednesday the eighth of July, being appointed for entering the workings, the distress of the neighbourhood was

again renewed at an early hour. A great concourse of people collected - some out of curiosity - to witness the commencement of an undertaking full of sadness and danger - some to stir up the revenge and aggravate the sorrows of the relatives of the sufferers, by calumnies and reproaches, published for the sole purpose of mischief; but the greater part came with broken hearts and streaming eyes, in expectation of seeing a father, a husband, or son "brought up out of the horrible pit! " As the weather was warm and it was desirable that as much air might pass down the shaft as possible, constables were placed at proper distances, to keep off the crowd.

Two surgeons were also in attendance, in case of accidents. At six o'clock in the morning, Mr Straker, Mr Anderson, the Overman of the colliery, and six other persons, descended the William Pit, and began to traverse the north drift towards the plane board. As a current of water had been constantly diverted down this shaft for the space of ten hours, the air was found to be perfectly cool and wholesome. Light was procured from steel-mills.

As the explosion had occasioned several falls of large masses of stone from the roof, their progress was considerably delayed by removing them. After the plane-board was reached, a stopping was put across it on the right hand, and one across the wall opposite the drift. The air, therefore, passed to the left, and number six was found. The shifts of men employed in this doleful and unwholesome work, were generally about eight in number. They were four hours in and eight hours out of the mine: each individual, therefore, wrought two shifts every twenty-four hours.

When the body of number six was to be lifted into a shell or coffin, the men for a while stood over it in speechless horror: they imagined it was in so putrid a state that it would fall asunder by lifting. At length they began to encourage each other "in the name of God" to begin; and after several hesitations and resolutions, and covering their hands with oakum to avoid any unpleasant sensation from touching the body, they laid it in a coffin, which was conveyed to the shaft in a bier made for the purpose, and drawn 'to bank'* in a net made of strong cords. It is worthy of remark that number six was found within two or three yards of the place where the atmospheric current concentrated, as it passed from the one pit to the other; but that he was lying on his face with his head downwards, apparently in the position into which he had been thrown by the blast. The air visited him in vain.

When the first shift of men came up, at ten o'clock, a message was sent for a number of coffins to be in readiness, at the pit. These being at the joiner's shop, piled up in a heap, to the number of ninety- two, (a most gloomy sight) had to pass by the village of Low Felling. As soon as a cart load of them was seen, the women, who had hitherto continued in their houses, but now began to assemble about their doors, came on the breeze in slow fitful gusts, which presaged a scene of much distress and confusion being soon exhibited near the pit; but happily, by representing to them the shocking appearance of the body that had been found, and the ill effects upon their own bodies and minds, likely to ensue from suffering themselves to be hurried away by such violent convulsions of grief, they either returned to their houses, or continued in silence in the neighbourhood of the pit.

Every family had made provision for the entertainment of their neighbours on the day the bodies of their friends were recovered; and it had been generally given out that they intended to take the bodies into their own houses. But Dr Ramsay having given his opinion that such a proceeding, if carried into effect, might spread putrid fever through the neighbourhood, and the first body, when exposed to observation, having a most horrid and corrupt appearance, they readily consented to have them interred immediately after they were found. Permission, however, was given to let the hearse, on its way to the chapel yard, pass by the door of the deceased.

From the eighth of July to the nineteenth of September, the heart-rending scene of mothers and widows examining the putrid bodies of their sons and husbands, for marks by which to identify them, was almost daily renewed; but very few of them were known by any personal mark - they were too much mangled and scorched to retain any of their features. Their clothes, tobacco-boxes, shoes, and the like, were, therefore, the only indexes by which they could be recognised.

After finding numbers, seven, eight, and nine, the operations of the first day ceased, about ten o'clock in the evening. At six the next morning, the workmen began to put deal stoppings into the stentings of the double head-ways west of the William Pit. In the afternoon, number ten was found, and the third board south of the plane-board discovered to be much fallen: carrying a brattice nearly to its face was the last proceeding of the ninth. Early in the morning of the tenth of July, the air in the William Pit was discovered to be casting up with a current so feeble as nearly to approach to stagnation. This being supposed to be caused by the water, collected about the bottom of the John Pit, approaching the roof of the mine, the machine was put in readiness for drawing it.

A collection of water amounting to about 4,500 gallons was twice a week raised from a sump or well, immediately under the John Pit shaft. This sump was made for the purpose of receiving it, as it oozed from the tubbing. The dip of this colliery being about one yard in twelve to the south-west, the lowest part of the colliery was consequently at this shaft, and the little water that the mine produced, collected here. The double head-way was nearly water level. The annexed section may assist in giving a clear idea of the appearance of the water when the circulation of air through the mine began to stop. A represents the shaft, and B the inner narrow board.

Hitherto the air had descended into the mine by the John Pit tube: but now the clay laid over the mouth of this pit on the evening of the first of June, was removed, and the settle boards, or frames, upon which the corves are loaded, were re-fixed. At forty five minutes after four o'clock this afternoon, the water began to be drawn in buckets, each containing ninety gallons. Thirty buckets were drawn in an hour.

On the morning of the eleventh, a larger stream of water than had been hitherto used, was diverted down the William Pit, with the expectation of forcing the air to descend with it. This was a desirable point to effect, as the bodies of the sufferers might be more readily obtained by this pit, than the other; but, as the water fell about the John Pit, the atmospheric current set more

strongly down it: the attempt was therefore abandoned as hopeless. The machine was constantly at work drawing water, till Monday the thirteenth, when the rubbish occasioned by the falling of the two scaffolds on the first of June, stones blown from the roof by the blast, and the body of a horse, began to be raised. As the body of the boy number eleven, had lain a long time in water, it was perfectly white.

On Tuesday the fourteenth of July, as the workmen were clearing out the water-ump at the bottom of the John Pit, a gust of fire-damp burst from the workings, and ascended the shaft. This caused so great an alarm, that the cry "Send away a loop!" from the bottom, and "Ride away! Ride away!" from the banksmen was heard together. Seven of the men clung to the rope, and arrived safe at bank; and two old men threw themselves flat upon their faces, in expectation of an explosion; but, after a second and similar eructation, the atmospheric current took its usual course. No alteration was perceived at the William Pit. This phenomenon was afterwards ascertained to proceed from a large fall at that time taking place in the stable board, and forcing back a foul admixture of the two damp and common air. The banks man's cry so alarmed the villages of High and Low Felling, that all the inhabitants, young and old, hastened to the pit. At two o'clock in the afternoon, the work was resumed.

On the fifteenth of July, the bottom of the planeboard was reached, where the body of a mangled horse, and 4 waggons were found. Though these waggons were made of strong frames of oak, strengthened with hoops and bars of iron, yet the blast had driven both them and the horse with such violence down the inclined plane board, that it had twisted and shattered them, as if they had been shot from a mortar against a rock. Number twelve, though a putter, at the time of the accident was employed at the meetings of the inclined plane, to keep the ropes in order as the waggons passed each other. Number thirteen, from the position in which he was found, seemed as if he had been asleep when the explosion happened, and had never after opened his eyes. He was seen, about a quarter before eleven o'clock, smoking his pipe on the place where his body was found. He attended to the five horses, and had the charge of keeping the waggon and inclined planeways free from obstructions.

After obtaining number fourteen, the crane was visited. Here twenty-one bodies, from number fifteen to thirty-six lay in ghastly confusion: some like mummies, scorched as dry as if they had been baked. One wanted its head, another an arm. The scene was truly frightful. The power of the fire was visible upon them all; but its effects were extremely various: while some were almost torn to pieces, there were others who appeared as if they had sunk down overpowered with sleep. Number twenty-eight was married at the age of twenty three to Isabella Greener, aged twenty-two. They had eleven children - first seven sons, and then four daughters, successively. The oldest and the youngest of the boys were born deaf; the rest were born with all their senses. Both of these were sent to school, and were taught to write and cast up sums. William, the oldest brother, after leaving school, was employed about the skreen (a machine which sorted the coal before it was sent away.) of the colliery, and in different kinds of work about its bank, but never wrought underground. Till he was twenty-one years old, his sight, according to his mother's account, was quick and strong; but about that period a dimness,

occasioned by a heavy lift, suddenly came over his eyes, and had gradually increased to total blindness.

He was a good writer, and understood enough of the power of numbers to reckon up his own earnings in figures. Once the agent of the colliery deducted eight shillings from his fortnight's pay, thinking him too young and infirm to work for the wages assigned him: this grieved him much, and he long remembered it as an act of injustice. His observations on the characters of his comrades, written with chalk on doors about the engine houses, were frequently humorous. He had a contemptible opinion of his brother's attainments as a scholar. His health has always been good, and since he lost his sight he has been maintained by the owners of Felling Colliery. He is thirty-two years old. Nicholas, the youngest of the seven, is twenty years old, and follows the trade of a shoe-maker, in which he is reckoned to have considerable expertness. His sight and health are good. Their mother has a language of signs, by which she holds a communication of thought between them and herself: and they frequently spend whole evenings together, deeply, and most affectionately engaged in conversation with each other. By the various passions which these conversations draw forth, and the quick changes of expression in their countenances, it is evident that their intercourse of ideas is nearly as rapid as they could be by oral language. William, notwithstanding his uncommon privations, can still express many of his wants by writing, at which exercise he is more ready and expert than could be expected.

It is difficult to quit this place, without reflecting on the riotous scenes constantly exhibited at the crane of a large colliery. The place is lighted with a lamp, just sufficient to make "darkness visible;" and to give one faint glimpses of series of youths successively hurrying from the wall of the full-way board, and hastening back to the working boards with the empty corves, up the crane-board. In many pits the coals are brought from the ewers by horses, which, from the great speed in which they are driven, make the bustle still more hideous. The thousand tricks of a crowd of boys in high health and spirits, each anxious to commit some frolic while his corf is under the crane - their bodies half naked, and black with dust - their laughing, fighting, loud swearing, - these joined to the incessant noise of iron-wheeled trams running on iron plates, and to the great heat and the offensive effluvia of the place, make it indeed a "horrible dungeon."

Such, in all probability, was the picture here, when the twenty-one persons were "Overwhelmed "With floods and whirlwinds of tempestuous fire! "The bodies of numbers thirty-nine, forty, and forty-one, were obtained on the night of the seventeenth of July. Thirty-nine being challenged about daybreak next morning, before the other two could be recognised, was therefore, though last in being found, the first in the order of burial. From an apprehension that the great body of firedamp confined by the stoppings newly put into the walls immediately south of the plane-board, might burst forth if kept perfectly tight, the atmospheric air was thrown into the full-way board, by a stopping placed across the plane-board, a little above the crane. As soon as numbers forty-two, forty-three, and forty-four, were confined, the air was conducted to number forty-five. After this, the stopping above the crane was taken down, and the workmen were employed from the night of the eighteenth to the morning of the twenty-second of July, in making a brattice from the north-west corner of the fourth right-hand pillar above the crane, to the south-east corner of the pillar next above the drift to the William Pit.

By this contrivance, the fire-damp on the south side of the plane-board was not only pent in by two rows of stoppings above the crane, but it was left at liberty to escape into the drift on the south side of the brattice, represented by the line x.n. in the annexed figure. July the twenty-second. Numbers forty-six and forty-seven, as well as thirty-nine, had probably attempted to make their escape from the blast - they were lying on their faces, their heads downwards, and their hands spread forwards. forty-six was working with forty-eight; and thirty-nine, forty seven, forty nine, and fifty were blasting stone from the roof at forty-nine. Little progress was made on the twenty-third, for after fifty-one was found, the day was chiefly spent in removing two heavy falls under which fifty-two and fifty-three were buried. The last of these had his employment in the second board south of the planeboard; he had therefore at the time of the accident either not commenced his work, or left it to talk with the young men at forty-nine.

About ten o'clock this evening, the piece of solid coal between the face of the first board, south of the William Pit, and the double head-ways on the west of it, began to be pierced. After being bored through with a miner's auger, the hole was kept perfectly tight by a wooden plug, while a passage for the men was opened. Iron picks were used till the coal was thin, when it was battered down in the dark with a wooden prop. Then picks of oak and lignum vita, hardened in the fire, were used in widening the avenue; and the steel-mills not suffered to play till the air took a regular suck past fifty-four, seventy-nine, seventy-eight, and behind the brattice, x. n. into the William Pit drift. This work was finished a little after twelve o'clock. Before two o'clock in the morning of the twenty-fourth, number fifty-four was reached. It is worthy of remark, that nearly the whole of the men found in this line of boards, had fallen on the very spot where they were employed. In the progress of obtaining the bodies from fifty-four to sixty, nothing particular occurred except a large fall, under which number fifty-nine was found.

On the twenty-fifth of July, eleven bodies, from sixty-one to seventy-one, were interred. Number sixty-four was under a large fall. This man was keeper of the Heworth poor-house, and a class leader of the Wesleyan sect of Methodists. A pamphlet has been published, containing twenty-four pages, and entitled "A short Account of the Life and Christian Experience of John Thompson, &c. compiled chiefly from his own Journal. By Theophilus Lessey, Newcastle upon Tyne, printed by J. Marshall, 1812. The profits of this pamphlet will be faithfully applied to the relief of his widow, and five orphan children". The boards of fifty-nine and sixty-four, were the only ones fallen in this sheth: each board here was bratticed nearly to its face, more with a view of rendering them pure and clean, than of giving assistance in obtaining the bodies; for the workmen, out of anxiety to recover them, became fearless of danger, and ventured into the repositories of foul vapours before the brattice was long enough to convey sufficient atmospheric air into them, to render them wholesome. The twenty-sixth of July, being Sunday, was a day of rest.

On the twenty-seventh of July, seven bodies were obtained. Seventy-two and seventy-three were much burnt, but not much mangled. Seventy-four, seventy-five, seventy-six, and seventy-seven, were found buried amongst a confused wreck of broken brattices, trapdoors, trams, and corves, with their legs broken, or their bodies otherwise miserably scorched and lacerated.

Before seventy-eight was found, the brattice represented in the last figure, was taken down; a stopping put across the plane-board at number forty-one; and the air thrown past seventy-nine, and fifty-four, through the aperture (which had been partly made by battering down the coal with a prop) and thence into the William Pit. This wall, on account of the prevalence of fire-damp, when forty-five was found, had not been crossed till now.

The twenty-eighth of July was chiefly spent in putting up stoppings, along the wall, from Seventy eight to seventy-nine. Number eighty had been blown through a stopping. Numbers eighty-one and eighty-two, the latter under a fall, were found on the twenty-ninth of July.

On the thirtieth of July, the fall, which commenced a little east of eighty-two, was found to continue, and eighty-three and eighty-four were dug from beneath it. Eighty-five kept the sheth down-going door opposite the William Pit on the east: his hair, which was of a light colour, had been burned off; but had grown again to the length of an inch or more. As all the upper parts of the mine, in which there was a likelihood of meeting with any bodies, had been once carefully gone over; and it was known that three persons had not escaped from the newly formed boards on the south-east, the air, on the thirty-first of July, was diverted, and thrown up the headways from the plane-board. Number eighty-six perished by the first explosion; for as H. Anderson escaped, he felt his body under his feet; but having a living boy in his arms he was unable to bring him out. He was employed in driving a waggon from the south crane at number eighty-eight. His horse, which was lying near him, had been turned round and thrown upon its back, by the force of the blast: its skin, when first visited, was as hard as leather, and, like the bodies of all the men, covered with a white mould: it was dragged whole to the shaft, and sent to bank in a net. After the atmospheric air acted a short time upon it, its skin and flesh soon lost their solidity, and became putrid.

August the first. The men, who had been working in the two boards north of number eighty-seven, made their escape up the wall in which he was found, to the crane-board, and thence down the head-ways. They called on him as they passed his board, but he made no answer. As he had been late up the night before, he is supposed to have been asleep when the accident happened. He was not at the place in which he was found, when the men alluded to passed it: it, therefore, appears that he had made a struggle to escape after it was too late to be successful. A day or two before his death, he told some of his friends, that he had a strong presage upon his mind, that he had only a very short time to live: but who has not many times predicted his death before it arrived?

Number eighty-eight, discovered on the third of August, had the charge of a trap-door in the wall, in which eighty-seven was found. Nature had left something deficient in his brain, which caused an employment to be assigned him, in which little memory and contrivance were required. He was found close to the crane, under a very heavy fall.

All the trap-doors, and stoppings, in this part of the mine, were standing when the workmen

escaped. The lamp at the crane was still burning. They found no falls in their way out, nor saw any injury done by the first explosion. But when it came to be explored at this time, the stoppings and trap-doors were blown down, the roof fallen, and as great marks of destruction as in any other part of the mine. It is, therefore, probable, that the atmospheric current passing each way, along the double head-ways, intercepted the progress of the first explosion, and prevented its igniting the fire damp here. But the choke-damp, pressing up the head-ways to occupy the space of the atmospheric air, threw a train of firedamp from hence into some part of the mine where the coal was burning, and this little magazine was blown up. Perhaps this may serve to explain the cause of the second explosion. The workmen now began to be employed in carrying on a regular ventilation through the wastes of the mine, by stoppings of brick.

On Thursday, the sixth of August, they found that the stable board had been on fire, and that the solid coal was reduced to a cinder, two feet in thickness. As far as the fire had extended, the roof was more fallen than in any other part of the mine. At this time it was ascertained, that this fall occurred on the fourteenth of July. The fire here had probably been caused by the hay igniting at the explosion, and communicating to the coal. The air, too, while the pits were open, would have its strongest current up this board, and consequently keep the fire alive. This was the only place in which the solid coal had been on fire. In other parts, the barrow-way dust was burnt to a cinder, and felt under the feet like frozen snow.

Number eighty-nine was found under six or seven feet of stone. From this time the ventilation, and search for the remaining bodies, were uniformly persevered in, till September the first, when number ninety was discovered; he had been narrowly missed by some persons who visited this part in the dark ,on the eighteenth of July.

The ventilation concluded on **Saturday the nineteenth of September,** when number ninety-one was dug from under a heap of stones. At six o'clock in the morning, the pit was visited by candle-light, which had not been used in it for the space of one hundred and seventeen days; and at eleven o'clock in the morning the tube-furnace was lighted. From this time the colliery has been regularly at work; but the body of number ninety-two has never yet been found.

All these persons (except numbers one, four, five and fifty, who were buried in single graves) were brick and lime between every four coffins. Those entered as unknown, in the burial register, have had names added to them since the search was discontinued. I pass over the many theories and absurd suppositions invented to explain the cause of this calamity. The power that destroyed, raised and marshalled its forces in secrecy - it left no evidence to shew from what corner of the mine it issued out to battle. In its effects it indeed proved that it either availed itself of the delusive security, the inactivity, or the want of strength in the means employed to keep it in subjection: but let us, with that charity which "thinketh no evil," refrain from enquiry into causes which commenced and wrought in darkness, and concerning which the clearest information that can be collected will amount to little more than conjecture and uncertainty

From now on the Reverend John Hodgson was determined to fight apathy or ignorance and stir up public concern for such wanton loss of human life.

Through his persistence on the 1st October the Sunderland Society was formed with some noble supporters on the committee and had within its ranks the varied experience of local clergymen, doctors, mine owners and viewers.

Among these also was Dr W.R. Clanny (1776 - 1850) who had been conducting experiments since late 1811 or early 1812 in his attempt to produce a [safety lamp](#), and George Stephenson the father of Britain's railways.

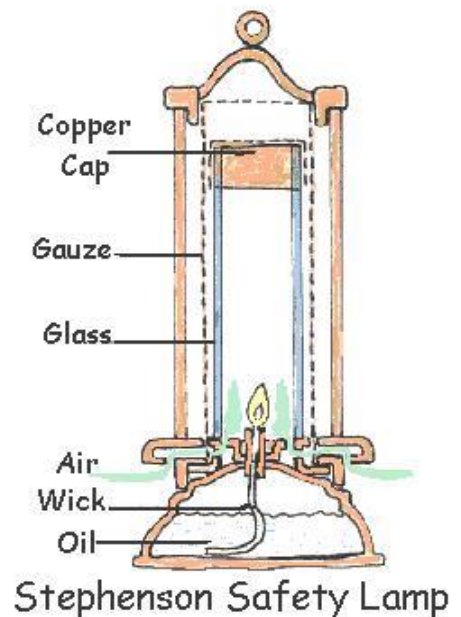
The main achievements of the society founded in the gloomy shadow of Felling were threefold. The point to be established here is that a [safety lamp](#) of some kind was destined to make its appearance. In this focus of both practical and theoretical science on the need for such a lamp, the great disasters, culminating in Felling, undoubtedly played a part. Davy's, Clanny's and Stephenson's 'Geordie' lamps, all now fitted with gauze, were the fruits of the requirements of growing industrialism and the resources of scientific inquiry



Davy Lamp



Clanny Lamp



Letter from Sir H. Davy to the Rev. John Hodgson

Oct 30. 1815

23. Grosvenor St

Dear Sir

I shall enclose, with this a notice
of my results on the fire damp
-my experiments have been successful
far beyond my hopes. I hope in
a very short time to be able to
send models of the different lamps
for Mr Buddle & Mr Dunn & for
the collieries in your neighbourhood.

I am Dear Sir

very sincerely yours

H. Davy

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