

## CRESTED BUTTE DISASTER.

The disaster at Crested Butte is, doubtless, yet fresh in the minds of most of us, it being one of the most destructive of human life that has yet marked the annals of mining in Colorado.

It occurred on the morning of the 24th January, 1884, at about 8 o'clock, shortly after the unfortunate men had commenced their daily labor.

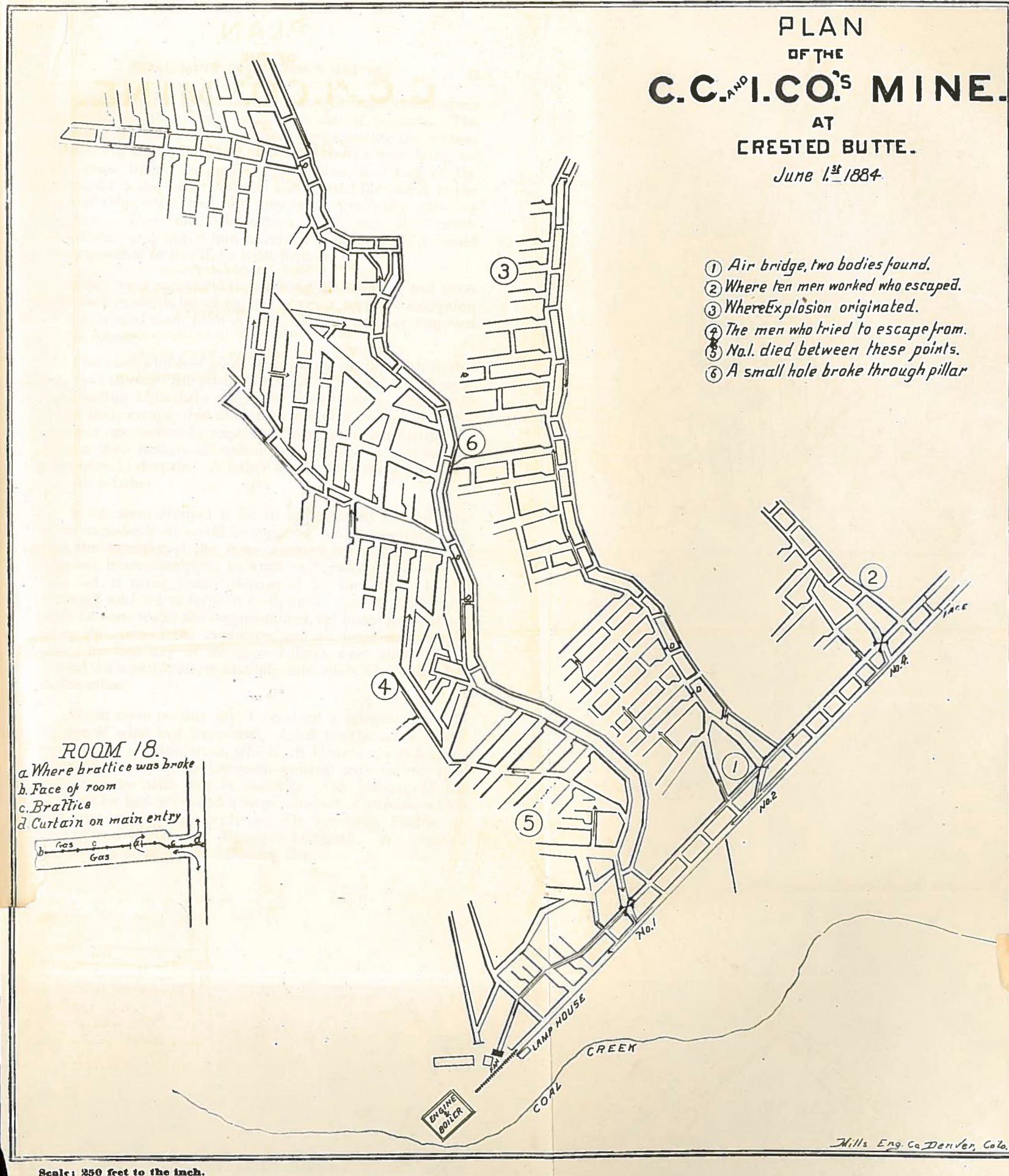
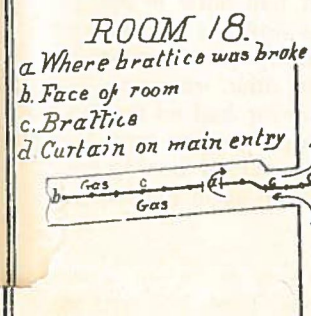
The fire boss, Luke Richardson, had, just a short time before, finished the round of his duties, examining the workings of the mine and reported to the miners, as was his custom, that their respective working places were free from gas, with one exception, and that place was No. 18 room, No. 2 level. He informed the man who worked in this room, John Anderson, that the brattice leading to his working face was broken near to room entrance, and that a quantity of explosive gas had accumulated during the night, and that he should not enter it until he (Richardson) had fixed the brattice. Anderson asked for a few nails, with which the fire boss supplied him, and says that he offered Anderson a safety lamp, and he refused to take it, promising that he would not enter the room. Anderson then went down the slope with his naked light, and entered No. 2 level.

Richardson had procured the necessary materials to repair the broken brattice, and was about to enter the mine when he heard the report and crash of the explosion, and at once remarked that Anderson must have gone into his place among the gas. He did not think the explosion was of such a serious nature, and at once seized his safety lamp and rushed down the slope. When but a short distance in he found the dead body of John Rutherford, the trip-runner, and some broken mine cars which had been carried for some distance before the blast.

About this time the ten men who escaped from No. 4 level came up the main hoisting slope. They had battled

## PLAN OF THE C.C. AND I. CO.'S MINE. AT CRESTED BUTTE. June 1<sup>st</sup> 1884.

- ① Air bridge, two bodies found.
- ② Where ten men worked who escaped.
- ③ Where Explosion originated.
- ④ The men who tried to escape from.
- ⑤ No. 1. died between these points.
- ⑥ A small hole broke through pillar



Scale: 250 feet to the inch.

Mills Eng. Co. Denver, Colo.



hard for dear life in making their way through the noxious gases of the after-damp, and were almost helpless. The younger and more robust of them were assisting the weaker ones. On their way they had discovered a man lying on the slope in an unconscious condition, and two of the strongest in the party dragged and carried him away at the risk of their own lives, for they were gradually growing weaker. They met Richardson, who was also much exhausted, and urged him to return with them as it would be impossible to live if he went further.

They were successful in reaching the opening and soon regained strength breathing the pure air, with the exception of the injured man, John Angus, who was at once removed to his home.

The men who had made their escape peered with straining eyes through the portals of death with throbbing hearts, anticipating that there might be many others who would make their escape; but after a few minutes had passed away and not one anxiously expected form appearing astride the gloom, their fiercely cherished hopes were changed to feelings of wild despair. A father was looking for a son and a son for a father.

It was soon deemed to be an impossibility to enter the mine until fresh air could be supplied, so the superintendent and the foreman of the mine, assisted by those who had escaped, immediately set to work in repairing the ventilating fan, it being nearly destroyed by the blast. It was replaced and set to force in fresh air as soon as could possibly be done under the circumstances, yet hours had elapsed since the time of the explosion, and all hope was already given up that any of the poor fellows were alive. Then spread the horrible alarm that fifty-nine souls were entombed in the mine.

About noon on this day, I received a telegram informing me of what had happened. I left for the scene of the accident by the first train, which left Denver about 8 p. m., accompanied by John Cameron, general superintendent of the company, who was in the city. On hearing of the accident he had procured a large amount of canvas, which was sent on the train with us. On reaching Pueblo we were joined by General Manager Danforth. We reached the mine at noon of the following day.



On meeting Mine Superintendent J. K. Robinson and his assistant, John Gibson, I could see that they were worn out with fatigue from the severe and fearfully hazardous labors undertaken with their party in their melancholy task of searching for the bodies of the dead.

Seeing Robinson's condition, I at once offered my services and took full charge of affairs. After organizing a fresh party, I commenced to search No. 1 level. I found that Mr. Gibson and party had already explored this level, and found some of the bodies on the main entry, which had been exposed to the full force of the blast, and in several cases arms and legs were found broken and bodies otherwise battered by being thrown against the jagged walls.

In this entry was also found the carcasses of nine mules which lay swollen on the track. As it was known that many bodies yet remained somewhere on this level, I therefore directed my party in the searching of the rooms, but found no bodies there, and it looked evident from the surroundings that the unfortunate men had fled from their working places. I then ordered the search to be made by the way of the in-take air course, thinking it very probable they would try to make their escape by that way, and in a short time after searching in that direction we found eighteen of the missing bodies huddled and piled in little groups in indiscriminate confusion, and the men had evidently been making their escape before the deadly after-damp checked their attempt, when but a few hundred feet from air. Some of them had battled hard for dear life, and had tried such devices as their ingenuity could evolve to prolong their strength to enable them to reach the opening near to the ventilating fan. They had no doubt selected this as their best way of escape, and would certainly have been successful in reaching day had not the ventilating fan been doomed to destruction.

Many of these poor fellows had placed a piece of cloth over their mouths and had evidently been breathing through it. Some were found with their hands placed firmly over their mouth and nose, while others had selected or dug a little hole where there was water and had placed their mouths over it when unable to go further.

Two young men had put up a canvas on a room

entrance and went up to the face of it, thinking that the covering might keep back the after-damp. They had with them a dinner bucket containing water. They had crawled on top of the lower bench of coal and had placed flannel over their mouths; it was quite apparent they had lived for some time. These two bodies were the last to be found, special search being kept up for three days to find them, after the other bodies had been found.

At 6 p. m. thirty-four bodies were found, and were conveyed to the double parting of No. 1 level. Saturday, 26th, and by 4 a. m., these thirty-four bodies were taken up out of the mine and placed in a row on two long platforms which had been erected in the blacksmith's shop near the entrance to the mine. I then directed the air current to be cut off from No. 1 level and conducted to No. 2 level. The work was necessarily slow in doing this, owing to the stoppings being all blown out, and the workings were more or less charged with fire-damp, thus causing us to erect temporary stoppings.

On entering No. 2 level I was accompanied by Peter S. Galloway and James S. Stewart, the rest of the party being left on the main slope until we could make investigation. We found the air bridge utterly destroyed and nearly blockading the entrance. On making our way over these obstructions we found two bodies; their limbs were broken and they were otherwise disfigured. Galloway, on looking ahead, called my attention, almost in a whisper, to look at something in the distance; and there, very much to our dismay, we saw a smouldering fire, which had been ignited by the explosion. Stewart, who was an experienced miner, and many years our senior, was the first to speak. His words were: "Let us keep cool, boys." We all at once realized our precarious position, for we knew that No. 4 level was full of the fire-damp, and was making its way slowly up the slope, and was then within fifty feet of No. 2 entrance, so we knew that prompt action was needed. We had a bucket with us, carrying nails, which we emptied out and procured water at a short distance, and the fire was soon extinguished, very much to our relief. A thorough search was then commenced through the workings of this level. The stoppings were speedily repaired, the company having on hand an abundance of timber and canvas for the purpose.



We reached the face of the level that evening. We here encountered a quantity of gas which was in proximity to the place where the explosion is supposed to have happened. Many of the bodies found here had been blown out of their rooms on to the main entry and were very badly burned. The surroundings at this point did not indicate that the force had been very violent, as would have been expected. It was evident that the blast had increased in force greatly as it traveled, working greater and greater havoc. The rest of the bodies were soon located, and were conveyed on stretchers to the entrance of the level and raised to the surface late that evening and placed with the others.

Two bodies were still known to be in the mine; search was kept up diligently, but were not found until Wednesday morning, the 30th.

The company made such disposal of the bodies as the relatives desired, and defrayed expenses of transportation.

General Palmer, president of the company, on hearing of the accident, at once telegraphed \$1,000, a personal donation, to be divided amongst the suffering families.

An inquest was begun at noon of the 26th. A coroner's jury was impaneled by Coroner N. S. Snyder, who reviewed the bodies. The following are the names of the jurors: Patrick Daley, H. C. Newton, W. Harris, W. H. Wadsworth, F. B. Woodhouse and Frank Brennan.

A great many witnesses were examined. Any and all who had anything to say respecting the accident were requested to attend. I adduce here the salient features of the testimony:

John Cameron, general superintendent, said:

That most of the men came to their death from the after-damp following the explosion. At this mine the company had a Murphy fan, eight feet in diameter, made in Chicago. When the explosion happened they were forcing air into the mine at the rate of 55,000 cubic feet per minute. Current was split, so that a portion of air went into first level and another portion into second, there being regulators governing quantity of air into each entry. Did not know the exact condition of air channels and regulators immediately before the explosion, but knew they were in

good condition six weeks before, on my last visit; said it was the duty of fire and mine boss to keep these in order; thought explosion occurred in No. 2 level. It was the duty of Luke Richardson to examine every portion of the mine, and notify the men if he found any gas; against rule for any man to enter a room where there is gas with a naked light.

James K. Robinson, superintendent of mine, explained the workings of the mine to the jury, and stated he gave positive orders that no miner should go into the mine without receiving orders from the fire-boss, so as to know positively that there was no danger, and when fire-damp was found, safety lamps were always insisted upon; said that old miners considered it the worst they ever saw for gas; some of the rescuing party who went in as quickly as possible thought they smelt fire, and immediately concluded that something might be on fire; I had brattices put up to exclude the air and let the fire die out; I was in the mine seven or eight times on the day when the explosion occurred; after Inspector McNeal arrived, I surrendered all charge to him, and afforded him all the assistance possible; saw some twelve dead men in the mine when I first entered it; did not move them at the time, as it is usual to see if there are any living men in the mine first before the dead are removed.

Garvin Dickson, sworn:

Am a coal miner, have been for twenty-four years; was working in No. 4 entry at the time of the explosion, had a sensation of tingling in the ears, and immediately lay down on the ground, thinking it was a local explosion. I now think explosion occurred in room 18, level No. 2; a man named John Anderson was working in the room, he had a naked light that morning; I went into the mine with him; he is dead. Anderson was a practical miner, but think he did not know much about gas. Heard fire-boss Richardson tell Anderson that the brattice was knocked down, and there was gas in his room; the conversation occurred in fire-boss' lamp room. When Richardson told him, Anderson said, I can take nails and fix it; the nails were given him. Anderson afterwards went in with a naked light; do not consider the fire-boss did all that he should have done; he should not have allowed him to go down until he had preceded him; thought at the time Richardson was a little



careless, but said nothing, as I supposed there was only a small body of gas. Anderson's body was taken out of No. 18 last night. The uniform condition of the mine has been good; there was plenty of air to drive the gas out at any time. I have thought the mine boss was at times over cautious in ordering us to use safety lamps; miners are oftentimes careless, and do not always obey the rules. Think the explosion occurred through a naked light.

John Calderwood, sworn:

Am a coal miner and have been for sixteen years; have been in the employ of this company eighteen months; was at work in No. 4 entry at the time of explosion; first felt a sensation in the ear, and told my partner, Dickson, he had better go; picked up the safety lamp and got out.

The rest of this witness' evidence corroborates the previous witness in his testimony.

Charles Davis, sworn:

Am a fireman, and was on day shift at the time of explosion. Richardson generally gets to the mine about 4 o'clock in the morning, and stays in till about 6 a. m.; fan was working properly until a few moments before explosion.

Joseph Smith, sworn:

Am a coal miner, have been for seven years, and working for this company since October; was working at time of explosion; saw Richardson before going in; he supposed everything was all right; took a safety lamp and went in, and was working about five minutes when explosion took place; did not feel effect of explosion, only after-damp; am sure explosion took place in No. 2 entry; think the mine the best ventilated one that I ever worked in, and perfectly safe with safety lamps; think explosion was caused by a naked light.

John Naylor:

Am a coal miner; was working in No. 4 entry when explosion happened. Saw Richardson, fire-boss, before entering the mine; he said my room was safe; saw no indication of fire or lack of air in that entry; my first intimation was a shock; saw some men who went into No. 2 that

morning and went into the main drift with them; left them at entry No. 2; they had naked lights; the explosion occurred half an hour after I left them; think one of them was a green miner; his name was Barrett.

David Owen Hughes, sworn:

Have been a miner thirteen years; worked for this company since January 8; saw Richardson, fire-boss, before going to work that morning; he said my room was safe; I worked in No. 4 entry; heard Richardson tell one Jones to be careful, as there was gas in No. 2; first I knew of accident was a sound and rumbling noise in my ears; afterwards in the blacksmith's shop saw a body, which I supposed to be Jones; so far as I knew there was plenty of air in the mine; if I had thought it unsafe I would not have worked in it.

Thomas Harris, sworn:

Have been a coal miner since 1846; I worked on the night shift; saw Richardson that morning as I was coming from work at room 12 or 13, level No. 2; were using naked lights that night; examined air a dozen times that night and found it good; never saw any deficiency of air in entry No. 2 since I worked there; have seen times when fan was not working properly, but men were always called out of mine before it was stopped.

Luke Richardson, fire-boss, testified:

That on morning of accident he had found two boards broken from the brattice on No. 18 room, level No. 2, and there was considerable gas in the room, and he gave man Anderson positive orders not to enter said room till he returned and repaired the brattice; he was just getting his tools ready to go back when the accident occurred; he said mine was very much troubled with gas, but considered safe when brattices were all in order.

Patrick McElwee:

Have been a miner eighteen years; worked for company nine days; went to work morning of explosion at half past six; saw fire-boss, who told me there was gas in my room, and gave me a safety lamp; was at work in No. 4 level; first I knew of explosion was a shock; made the best of my way out; do not know where explosion occurred; think it



might have been in No. 2; found fire-boss' chalk mark in my place; do not think mine dangerous; air is good; have gone in rooms when gas was marked on the shovel; was working in Blantyre mine in Scotland, where 260 men were killed by an explosion; was one of twenty-two who escaped; since accident in that mine safety lamps are only used.

John L. Young, engineer, testified:

He was running engine at time of explosion; began work at 7 a. m., and in about forty minutes after saw flash and dodged to escape the flying sticks and stones; then went to fan, which was stopped; fan was shattered and side-boards all blown off; fan was running three minutes before explosion; fan was in operation two and a half hours after explosion.

A great many more witnesses were examined, but their evidence was all to the same effect, with the exception of one witness, John Gallagher, who had worked there some time previous, and who stated that he had noticed carelessness on the part of the drivers in not keeping trap doors closed, and that there was laxity of discipline throughout the mine, but on being re-examined the following day admitted that he might have been mistaken in his statements respecting the trap doors.

John McNeil sworn and deposed:

I am state inspector of coal mines; worked in and around coal mines for twenty-one years; have been state inspector six months; heard of accident about 12 o'clock noon, on the 24th; arrived here at noon of 25th; found the mine in horrible condition from effects of explosion. When I arrived temporary stoppings had been put in No. 1 entry, where I found eighteen bodies. They were suffocated by after-damp, making their escape through return air course leading to fan; overcome by the damp when half way out. I then turned the air current from No. 1 and put it in No. 2, and found twenty bodies; they were very badly burned with the exception of three bodies. The explosion took place in No. 2 entry; can't say what room, think it was 16, 17 or 18; found them sometimes two and three together, and six men near room 11; there was more gas in No. 2 than in any other part of the mine; visited this mine on or about the 4th of December, and found no gas

in it—inspecting all parts of the mine—and everything in good condition; but advised caution and suggested some improvements as to cross-cuts, and on no account, whatever, to allow any standing gas in the mine, either in working places or abandoned workings; also gave instructions that the fire bosses should visit all parts of the mine, whether being worked or abandoned; do not think they were carried out; think there had been carelessness to cause such an accident, but cannot locate it; it is difficult for the most expert miner to locate carelessness after an explosion.

(Evidence of Superintendent Robinson, and miners who had escaped from the mine, was then read to the witness.)

Said, after hearing it, that it seems to indicate that the mine had been well ventilated; his duties, which were defined by laws passed by the legislature, requested him that he should look after the safety of miners, and see that good ventilation was furnished, or at least 100 cubic feet of air per minute per man was supplied; keep account of all accidents and the condition of mines, and make annual report to the Governor; impossible that Crested Butte mine could be worked with the quantity prescribed by law; this mine had six times that amount, but no more than was necessary; think there was sufficient air if properly utilized, and precautions taken; made an official report to General Superintendent Cameron, at the time of visit in December, stating that everything was in proper order; brattices and stoppings in good condition; also advised Mr. Cameron to have extra caution used, as I considered Crested Butte mine a very dangerous one. Took three readings with different anemometers; found average reading of 55,000 cubic feet per minute, twice the amount of most mines in the State, but still it is all needed; the stoppings in this mine are wood brattices and solid walls, canvas being used temporarily; think the stoppings good, but would prefer those of sandstone, where there is gas; I do not know of any better method of working this mine than that employed, as the vein is from seven to ten feet, and would not be favorable for long-wall workings; have no interest of any kind in this mine; think the carrying of naked lights into a gaseous mine indiscriminately is not right; think safer to have safety lamps on all occasions in mines of this class; think that Fire-Boss Richardson, from what Dixon, Calderwood and Stewart say, performed his duty as far as Anderson was concerned; the gas of coal mines is carburetted hydro-



gen, which exudes from the strata, and is generated principally in mines below water level; explosions are caused by a mixture of air and carburetted hydrogen; one part of carburetted hydrogen to nine parts of air is most explosive mixture, but a smaller proportion of fire-damp is less so.

After a careful inquiry the jury found a verdict to the effect that the man Anderson carried a naked light into room 18, No. 2 level, which gave rise to the explosion; and avers that there is a dangerous supply of gas in this mine at all times, and suggests that only safety lamps should be used there.

In all countries where coal mining is extensively engaged in, it has been found that serious and deplorable disasters have more or less marked the annals of this industry, notwithstanding any precautions that may be taken; still casualties seem to be inseparable from the conduct of this business, and continue to produce their annual average. We hear much comment on such disasters, and it is well that such should receive the fullest criticism, in an endeavor to promote the means for the prevention of such, and the diminution of peril to the miner.

After the Crested Butte explosion we could hear numerous causes as to the origin of this accident. I will here endeavor to give as clear and concise a view of my belief of the circumstances to which I attribute this fatality, as I am able.

On the 4th of December I visited this mine and made careful inspection. Found the air current good and quite sufficient to render harmless all gases that would be given off in it; but this, in itself, is not an infallible safeguard against explosion, unless there exists a rigid spirit of discipline amongst miners, and a never failing watchfulness to the repairs of the appurtenances of the mine, for it may be in the defect of the brattice, door or stopping, or neglect on the part of one careless man that we may look for the cause explaining these disasters which occur frequently in the best ventilated mines, and where the highest readings on the anemometer are found, and whatever might have been the cause of the above explosion, it certainly was not in a deficiency of the total quantity of air forced in the mine.

During the time of my visit to the scene of this disaster, I formed an opinion as to the probable cause of this acci-

dent, which, after the maturest reflections given to it whenever the subject comes uppermost in my mind, apart from the excitement coincident to the explosion, I am obliged to give my fullest consent to, viz.: That the man Anderson did not walk deliberately into the gas after being warned not to enter his room, but think that he set to work with the nails the fire-boss gave him, and nailed the broken brattice up in place, which turned the air in a strong body and drove the whole of the gas out (which was probably equivalent, in force, to nearly 3,000 pounds of blasting powder) more rapidly than the air could render it harmless, and might have been fired on main entry by some unsuspecting party near by. Anderson, as it is stated in some of the evidence, told the fire-boss that if he gave him nails he, Anderson, would fix the brattice, also remarked that he had a car which he wanted to load. Anderson probably thought he was just doing what the fire-boss would have done had he waited until he came, so with a view of saving some time in not waiting for the fire-boss, *he nailed up those boards, which certainly should never have been done until every miner was out of that entry, and not one naked light been in that particular district.* Under this view, if Anderson had allowed the fire-boss to have preceded him, the fire-boss, I am very much afraid, would have done the self-same thing, as he was already making preparations and getting his tools to go and fix that brattice; thus the accident might have happened at the fire-boss' hands. This is my theory, which I firmly believe to be well founded.

The following is a list of persons killed in the Crested Butte disaster:

David Thomas.	John Price.
John Thomas.	James Driscoll.
Miles Roach.	James Coughlin.
Henry Anderson.	Henry Stewart.
John Williams.	Barney Heffron.
M. J. Stewart.	Larry Heffron.
John Martin.	W. L. Jones.
Thomas Rogers.	John Donnelly.
James O'Neil.	Charles Rodwald.
Jacob Laux.	Charles Sterling.
James Welch.	Thomas Roberts.
Peter Baker.	James McCourt.
William Davidson.	Frederick Becht.



Richard James.	Iber King.
Richard Hughes.	Joseph Weisenberg.
P. McManus.	H. Donegan.
W. J. King.	Joseph Kranst.
John Creelman.	James F. Stewart.
John Hular.	Wm. Neath.
Thos. Williams.	Morgan Neath.
John Shun.	Thomas Glancey.
Patrick Barrett.	John Rutherford.
John McGregor.	William McCowitt.
John Meyers.	A. W. Godfrey.
F. W. Smith.	Daniel McDonald.
G. B. Nicholson.	William Aubrey.
William Maroney.	Benjamin Jeffries.
Nicholas Probst.	Thomas Lyle.
Thomas Laffey.	Thomas Stewart.
John Anderson.	

## LIST OF FATAL ACCIDENTS.

September 20, 1883.—Thomas McKeown, miner, No. 4 shaft, Canon City Coal company, Fremont county, received injuries from which he died October 5, never having been conscious again; left a widow and two children. McKeown fired a shot, and immediately entered his place before the powder smoke cleared away. It appears that the shot was overcharged with powder, and the coal was thrown out with great force, displacing four or five props set under bad roof at face of roadway; he had but just entered when the rock from the face of the roadway fell, catching the unfortunate man under its weight. James McCart, who was working as partner with him, and present at the time of accident, states that they were both aware of the roof being bad, and thought from the nature of the shot that the props had been knocked out. McCart remarked to him that he should not enter so soon, but he answered he was only wanting to see the result of the blast and he went in. Being notified of this accident, I at once visited the place and found seven to eight tons of rock at face of roadway with a few props lying underneath. A piece of coal weighing about 300 pounds was lying out in road, which had been thrown there by the blast.

This habit of rushing in among powder smoke to investigate the result of a blast is a very daring and dangerous practice, still the same is practiced daily, even amongst intelligent miners, and many lives have been thus lost. Miners should never enter their working place after firing a shot until the air current removes the powder smoke, so that any probability of danger that may exist from result of blast may be apparent. The air current should always be in such a quantity as to carry away the smoke from a blast in a very few minutes.

September 28, 1883.—Daniel Goggins, miner, Starkville colliery, Trinidad Coal and Coking company, Las Animas county; injured and died morning 29th; caused by a fall of slate at working face of his room. I found, on examina-