State inspector of coal mines reports

Section 37, Pages 1081 - 1110

These reports of the Kansas State Mine Inspector mostly concern coal mining, though by 1929 the scope of the reports broadens to include metal mines. The content of individual reports will vary. The reports address mining laws and mining districts; industry production and earnings; fatal and non-fatal accidents; accident investigations and transcripts of oral interviews; labor strikes; mine locations; mining companies and operators; and proceedings of mining conventions. The reports document the political, economic, social, and environmental impacts of more than seventy years of mining in southeastern Kansas.

Creator: Kansas. Inspector of Coal Mines

Date: Between 1884 and 1956

Callnumber: SP 622 K13

KSHS Identifier: DaRT ID: 210191

Item Identifier: 210191

www.kansasmemory.org/item/210191

Q. Were they all at the stable?

A. Some were at the stable and some was about half way between that and the bottom of the shaft.

Q. The mules that were apparently burned, if you noticed those, were not those at the stable, but those down next to the shaft, were they not?

A. Yes, sir.

Q. You said that some windy shots did more damage than others?

A. Yes, sir.

Q. (by jury). Do you consider that due to the condition of the shot or the mine?

A. Depends on the shot.

Q. (by Coroner Boaz). If a mine is in good condition, would a windy shot do any damage there?

A. I think it would.

Q. (by jury). You said the shaft was in good condition so far as you knew?

A. Yes.

Q. Did you ever go over the shaft to see the condition of the mine; that is, did you ever inspect the condition of the mine?

A. No, sir.

Q. Do I understand you to say that a windy shot in a mine that is not safe is not any more liable to cause an explosion than an ordinary shot, where there is gas or particles of dust or elements that cause combustion?

A. It might be that way; all shots make a report more or less.

Q. It would be just as dangerous for an ordinary shot in an unsafe mine as a windy shot in a good mine?

A. No, sir.

Q. What makes a windy shot?

A. I could not say.

Q. Did you ever see a windy shot?

A. No, sir.

Q. (by Coroner Boaz). You do n't know what a windy shot is?

A. No, sir.

Q. (by jury). Did you ever examine one after it is fired?

A. Yes, sir.

Q. Do you know what the cause of a windy shot is?

A. Not unless the shot-firer drove it too far in.

Q. (by John Randolph). A man in front of a windy shot, if he was near enough to it, would be in about the same condition as one in front of a long-barreled gun containing a heavy charge of gunpowder?

A. Yes, sir.

Q. Is n't it a fact that men in the mines here at Chicopee have gone back to see why the shots did n't go off and have been injured?

A. Yes.

Q. A man would not be safe close by a windy shot?

A. No, sir.

Q. And the danger would be from the blowing out of the tamping or of a rib, or the like of that?

A. Yes, sir.

JOSEPH FLETCHER, being duly sworn, testified as follows:

Q. (by Coroner Boaz). What is your name?

A. Joseph Fletcher.

Q. You are in the employ of the Mt. Carmel Coal Company?

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A. Yes, sir.
Q. What position do you occupy?
A. Superintendent of the mines.
Q. How long have you been superintendent?
A. Since one year ago last November.
Q. How long have you been in the mining business?
A. Thirty-two years.
Q. You were not here when the explosion occurred?
A. No, I was at Frontenac.
Q. What time did you get here after the explosion?
A. About as soon after as I could run the horse here; about 7:15 or 7:20, or something like that.
Q. You went right into the mine when you got here?
A. No, sir.
Q. What time did you go into the mine?
A. After I looked over the situation on top, I drove to the fan to see if it was in operation.
Q. What evidence of the explosion did you see when you got to the mine?
A. I saw the fan was displaced.
Q. What did you see after you went down in the mine?
A. I could see lots of debris scattered around; pieces of timber and such like.
Q. Any evidence of fire down in the mine anywhere?
A. No, sir.
Q. In any part of the mine?
A. Yes; in the fourth north on the east side.
Q. What did you see there, Mr. Fletcher?
A. I could see from the indications from the bark on the mine props that the flame had passed over there.
Q. Were you there when the bodies were found? Did you find any of the bodies in the fourth north?
A. Yes, I was there. Some were in the front entry and some in the back. I took the back entry. I think Pierce and Hol —— were there. On the other side of the cars there laid a body.
Q. You was first?
A. No, there were two other men.
Q. Had the body been moved when you saw it?
A. No, the body had not been touched.
Q. Did it look as if it had been blown any distance or as if it had just lain down?
A. Looked as if it had been sitting there waiting and had fallen over.
Q. Whose body was this?
A. It was a body that was burned.
Q. (by jury). What entry was that?
A. Fourth north on the east.
Q. (by Coroner Porter). You said the body had not blown far?
A. It had not been blown. Was sitting there waiting for the shots to go off. He had fired the last place in that entry and the next place would be the fifth north. He was waiting for the shots to go off in No. 1.
Q. (by jury). How long would it take a shot to go off after it was fired?
A. It would be according to what kind of squibs used.
Q. Would a miner wait for them to go off?
A. Yes, sir. If shot-firer do n't fire shots for miners, miners can't work.

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Q. I thought he could go away and come back to that?

A. A miner will not walk out of his way. He would not know whether it went off while he was firing those other shots.

Q. (by Coroner Boaz). Have you any idea what caused the explosion?

A. I think it was caused from blown-out shots or powder.

Q. (by jury). You mean windy shots?

A. Yes.

Q. (by Coroner Boaz). Can you tell what it was that exploded in the mine?

A. If the shots were fired, the shots form gas and explode.

Q. You think it was gas that formed from firing off shots?

A. Yes.

Q. Was more shots fired this night than usual?

A. Not in particular.

Q. This man had done more than any other miner; he had finished his work there?

A. I think so.

Q. If gas is formed from firing shots, would n't there be more explosions than there are?

A. Not necessarily; it is owing to the condition of the mine at the time.

Q. What condition would it have to be in to make an explosion?

A. Blown-out shots where she has three or four feet of powder, and if she has less work than would consume all the energy of the powder, it would make gas and you would get more flame, of course.

Q. Would there be enough flame to blow the top off the fan house?

A. Liable to do it as not.

Q. What explosive gases do you have form from the firing?

A. I never have studied chemistry. She forms carbonic oxide. It will explode.

Q. (by jury). Then that was not coal-gas?

A. It was gas that generated from the explosion of powder.

Q. You have been in the mine since the explosion?

A. I went down in the mine and never came out until 10:30 yesterday. I was down there this morning.

Q. I understand you to say that Possing had fired more shots than usual in the same length of time?

A. Yes, sir; he had got through the third and fourth entry and next to the fifth.

Q. He fired third and fourth entry on the east?

A. Yes, sir.

Q. (by Coroner Boaz.) You was in the mine every day?

A. Not every day; every few days.

Q. Did you go over most of the mine when you went down?

A. Yes, sir.

Q. What was the condition of the mine the last time you was down before the explosion?

A. I was down last Tuesday.

Q. What was the condition of the mine that day?

A. I considered it in a good condition.

Q. How about the dust in the mine that day? Was there more than usual, or had it been sprinkled down the last time you saw it?

A. I never noticed any dust there more than there had ever been there.

Q. You have men or a man to look after the condition of the mine?

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A. Yes, sir; we have a foreman.

Q. What is his business?

A. He has to look after the mine in general. He gives places to the miners, hears their complaints, discharges men, and, in fact, he has the underground management of the mine.

Q. Do you have a man to look after this sprinkling and see that the air is all right?

A. There is a man to look after the condition of the air, to put up stops, brattices, doors, curtains, etc.—that is his business; but as to the ventilation of the mine, that is looked after by the mine foreman.

Q. Who is the mine foreman?

A. Mr. Flynn.

Q. Who looks after the air-courses?

A. Mr. Anthony Gallagher.

Q. Was he instructed as to his duties when he was put in?

A. I don't know. He is a company man, and is supposed to do any work that is reqired to do. He is under the direction of the mine foreman; every man below is.

Q. You was n't with the two men who found the other two bodies?

A. I found one of them myself. I was in the lead.

Q. (by Coroner Porter). What body was that?

A. I think it was a body found in the parallel west of the second north. I think his name was Weinberger, or some such name as that.

Q. (by Coroner Boaz). You would not know anything about the condition of the air on Saturday if you was not down since Tuesday or Wednesday, would you?

A. I don't see why it would not be good then if it was good Tuesday or Wednesday.

Q. You could n't tell then whether there was any more cause for an explosion on Saturday, then?

A. One thing, they were firing shots Saturday night, and when I was down last before the explosion they were n't.

Q. (by jury). Had most all of the shots been fired before this windy shot was fired?

A. No, sir; quite a lot were left.

Q. (by Coroner Porter). Were some cartridges still unburned?

A. Not one had been fired that we found.

Q. (by Coroner Boaz). What is the law about the condition of the mine as to the safety of the men?

A. If the mine is worked and is in good condition, I think the mine would comply with the law.

Q. What does the law require the condition of a mine to be in when it is in good condition?

A. It is according to the method of work. You take a mine where they work like these miners on the parallel system ——

Q. (by Coroner Porter). Have you any rooms in that shaft that you have to use a safety-lamp in?

A. No, sir; not that I know of.

Q. (by Coroner Boaz). Does the law require that you have a man to go in and see as to the safety of the men?

A. Not unless gas generates in the mine. Then a man must inspect the places where gas generates. In this country, where mines do n't generate gas they are not inspected.

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Q. That would only be a local law, then? The mines would only be inspected where gas accumulates?

A. I do n't think there would be any necessity for a mine to be inspected that does not generate gas.

Q. Is that the law of this state?

A. It may be the law of this state.

Q. Does it apply to all mines?

A. I would construe it that way.

Q. Is there any law in regard to sprinkling the mine; keeping the dust down?

A. I do n't know about the law, but it is the custom to sprinkle.

Q. (by Coroner Porter). What is the object in sprinkling the mine?

A. It is done in order to lay the dust, for the benefit of the miners and to make better traveling, and so on.

Q. (by Coroner Boaz). Do you fear danger of explosion from dust in the mine?

A. In what respect?

Q. Is there more apt to be an explosion in a dusty mine than in one not dusty?

A. The dust itself would not explode, I do nt think.

Q. (by John Randolph). You were informed as to the general condition of this mine No. 5 for equipments and safety appliances during the time you have been the superintendent of this company, were you not?

A. Yes, sir.

Q. I wish you would state the condition of this mine prior to this explosion as to modern appliances and safety arrangements and methods of working.

A. Well, we have a very large shaft. It is the largest in the state. It is well timbered. We have good machinery. We have a fifteen-foot fan and one of the largest air-shafts in the state. I think our method of work is worked on the double-entry system. There are three main entries. The mine is well ventilated.

Q. Is it not a fact that this mine No. 5 is a great deal above the average throughout the district in the matter of equipments and safety applicances?

A. Yes, sir.

Q. Is it not a fact that that has been its reputation among miners throughout this district?

A. Yes, sir.

Q. To your knowledge, the mine was well equipped with safety appliances and methods of working and was well up with the modern times?

A. Yes, sir.

Q. Is it not a fact that the air-course and arrangements for air have been good?

A. Yes, sir.

Q. Have you brushed your parallel mine roads?

A. Yes, sir; as a general rule in this district it is not done.

Q. What do you mean by brushed?

A. Taking down the top above coal, which is three feet eight inches thick.

Q. Prior to this occurrence of last Saturday evening, had you any cause to anticipate such a disaster in No. 5?

A. No, sir.

Q. Had you anticipated any such disaster as that?

A. No, sir; never.

Q. From all your observations, you had not at any time anticipated any such disaster?

A. Never had any idea of it. I had no cause to think so.

Q. The air-course was good?

A. Yes, sir.

Q. Was the sprinkling in good condition?

A. Yes, sir; we have as good a foreman as there is in this section of the country.

Q. His assistant, Mr. Gallagher, is also a miner of experience and good reputation, is he not?

A. Yes, sir.

Q. (by Coroner Boaz). Speaking about appliances for safety of mines, does the law require any different times in the day, hour or month or so on to see if everything is in safe condition?

A. The mine foreman is there daily, and he examines the air-courses, the condition of the mine; almost every working-place in the mine the foreman is supposed to be.

Q. (by jury). Was it coal-dust on fire?

A. It was not coal-dust on fire.

Q. Is gas that generates from powder explosive?

A. I would consider it so.

Q. This gas that generates from the burning powder, is it explosive?

A. Under certain conditions I think it might be.

Q. Under favorable conditions it will explode?

A. Yes.

Q. Did I understand you to say that it was your opinion that the explosion was due to the many shots being fired in quick succession?

A. No, sir.

Q. Did you not say that the shot-firer had done his work in a short time?

A. I stated that the shot-firer had fired more shots that night than any other shot-firer had fired that night. He did more work, fired more shots. He had finished in 3 and 4, and was next ready for No. 5. The other men had not got back that far.

Q. You found new evidence to-day of windy shot in his section?

A. Yes, sir.

Q. Was it anywhere near this last place?

A. Yes, sir.

Q. How far from that?

A. About 200 feet from that.

Q. Can a shot-firer always tell a windy shot?

A. I don't think he could or he never would have fired it.

Q. Is a shot-firer supposed to know when a shot is dangerous to fire?

A. I think if the shot-firer thinks the shot is not safe to fire he would pass it by.

Q. The miner would not have any right to fire it himself?

A. No.

Q. In your opinion, it was not the amount of work the man done, but the windy shot, that caused the explosion?

A. Yes, sir. There were two in the same room; two windy shots—room 1 off the fourth north entry east.

Q. Do you know the man who works in that room?

A. I do not.

Q. (by John Randolph). Did you examine rooms Nos. 1 and 2 off the fourth north east?

A. Yes, sir.

Q. After the accident?

A. Yes, sir.

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Q. Did you find any evidence of blown-out shots?
A. Yes, sir.
Q. Where?
A. In room 1 off the fourth north on the east.
Q. Both in room 1?
A. Yes, sir.
Q. Where were these evidences relative to the place where you found the body of Possing?
A. They would be 200 feet, I should judge.
Q. Were they at the face of room 1?
A. Yes, sir.
Q. Where was the body found?
A. In the cross-cut leading into the fourth north entry.
Q. He had evidently been sitting there?
A. Yes, sir.
Q. Now, from the position of the evidences of these blown-out shots and from the body, could the flame and fire have reached him from where you found the body?
A. I was positive that it did.
Q. It was the flame and fire from those blown-out shots that killed him?
A. Yes, sir.
Q. He was the man that was burned?
A. Yes, sir.
Q. Could all the other damage that you found done in that mine and the results of the apparent explosion have been brought about by those blown-out shots in that room?
A. Yes, sir.
Q. And the after-damp that was created produced the death of the other men?
A. Yes, sir.
Q. (by jury). How far was that room open?
A. Something over 200 feet.
Q. How many break-throughs?
A. Maybe three.
Q. Any filled up?
A. Not to-day.
Q. In your opinion, had they been filled up?
A. I don't see how the men could have worked if they had not been filled up.
Q. (by John Randolph). If those break-throughs in room No. 1 had been curtained or filled up prior to the explosion, would the stopping have been blown out by these windy shots?
A. Yes, sir.
Q. That would have been a natural consequence, would it not?
A. Yes, sir.
Q. (by jury). Would or would not the windy shots produce the same effect whether these were stopped up or not?
A. No; would have no effect or influence upon those shots.
Q. (by John Randolph). They are stopped up to conduct the air to the face of the room?
A. Yes, sir.
Q. And the gobbing or putting up of curtains is done for the purpose of carrying air up to the face of the room and carrying out smoke?
A. Yes, sir.

Q. (by Coroner Boaz). How far from the main shaft back of this room was the explosion?

A. About 900 or 1000 feet to the face of the room.

Q. Were there any other shots fired between this room and the main shaft?

A. Yes; they could be firing on the first and second north or the first and second south.

Q. Do you think there would be gas enough formed from these two windy shots to do the danger that it did on top?

A. Yes, sir; I think those windy shots would do it.

Q. (by John Randolph). It might pick up other powder on the way, might it not?

A. Yes, sir.

Q. (by Coroner Boaz). You don't think there was anything else there that would cause the explosion except this gas from firing shots?

A. I don't think the mine generated any gas.

GEO. T. MCGRATH, being duly sworn, testified as follows:

Q. (by Coroner Boaz). Where do you live, Mr. McGrath?

A. At Weir City.

Q. What is your occupation?

A. State Coal-Mine Inspector.

Q. Were you here at the time of the explosion Saturday night?

A. No, sir.

Q. Where were you?

A. I had just left my home or had just started for Osage City. They sent me a telegram. My wife got it and forwarded it on to me. I came back and came over here. I got here Sunday at 1:30 P. M.

Q. When did you ever inspect No. 5 shaft of the Mt. Carmel Coal Company?

A. July 13, 1897.

Q. Was the shaft in good condition at that time?

A. The sanitary condition was practically good at that time. I have copies of my notes made at that time.

Q. When did you next go in the mine?

A. This morning at ten o'clock.

Q. In what condition did you find the mine this morning?

A. In somewhat of a wrecked condition?

Q. What was the cause of that condition? Could you tell?

A. Results of an explosion.

Q. You inspected the mine this morning?

A. Three parts of it—the principal points of it—to locate if possible the cause of the explosion, so that I could report it to you fellows this afternoon. I suggest that I read my notes made in the mine this morning. I can give it more correctly because I took the notes at every point and place. [Reads; page 1.] "I went down into mine No. 5, Mt. Carmel Coal Company, this morning at ten A. M., accompanied by J. Fletcher, Peter McCall, and John Bell. When on the bottom started west to first north on the west side. There we found the door belonging to the first north pressed north; 100 feet from the mouth of the north entry was a T iron rail blown south and bent into horseshoe shape. First west off second south at that point the wreckage seemed to be less. Stopping in cross-cut at this point blown north. [Page 2.] Little further west in first west entry another stopping blown north. This was in the same entry only further west. To the point where Antone Weinberger was found was 400 feet

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from the first north entry off of west parallel entry. At room 9 was found a box of squibs which he carried with him. They are not burnt. All stoppings along that entry up to this point were blown to the north. [Page 3.] Four shots at head of this parallel entry. One coal shot tamped and two coal shots not tamped. Brushing shot was tamped. The shots were wrapped up in water-proof paper. The powder in both cartridges was dry, and at this point no disturbance of an explosion."

Q. (by Coroner Boaz). Would powder ignite from a flame?

A. I think so. "The powder left to be used in holes not tamped was standing up against the coal in cartridges. There was a little moisture across the head of the face of that entry. Bottom was moist clear across the face of that same entry. Room No. 10. Three shots; one tamped, two not tamped. Powder setting up against the drill holes and dry. The shot on the right rib four feet in the solid, and a dangerous shot to be fired. It was not fired. The needle was in it. I examined the shot."

Q. (by jury). Why was it dangerous?

A. Because it was drilled in the solid and could not do its work.

Q. Do you consider it dangerous to put a shot in and fire the shots in the vicinity of one that had no tamping?

A. When the shot-firer comes in he would put the powder in drill holes and tamp them up before he would fire. The powder would be placed in the coal in the drill holes. When the drill holes are wet the miner leaves that powder there and everything ready for the shot-firer to tamp the shot. [Page 4.] Room 9. Three shots; one tamped, two not tamped. Everything undisturbed. Room 8. In this room is a horseback; merely drove in and widened and stopped. Two tool-boxes in this room and in one of the boxes a powder can had about four pounds of powder in it undisturbed. Room 7. Off of room 7 is room 8; turn in behind horseback. All shots fired up to that point. There where he ceased firing. From there to the face they are not fired. [Page 5.] Back entry in this parallel entry shots not fired. One tool-box lid off of tool-box; do not know whether torn off or not. Think it was not torn off by explosion, but might have been torn off. There is a can with about five pounds of powder in that box."

Q. (by jury). Was the can sealed up?

A. Just the ordinary cap that goes over the top of the can that is used at the mines. It was not exposed, and contained about five pounds of powder. "From that point I came back to the air-course, following the main west entry. This entry is the main air-course, in the northwest quarter of the mine. Eight hundred feet from the bottom of the shaft on that air-course was found a dinner-bucket. This dinner-bucket was supposed to belong to Joseph Settier, one of the shot-firers. From that point came on to the head of the main west entry. No shots fired in the head of the main west entry, or the rooms close by, nor nothing disturbed."

Q. (by jury). Was that on the south side?

A. On the main west entry leading from the bottom of the shaft. "Fifteen hundred feet from the bottom to the face of that entry; the last place upon the main west that showed any signs of explosion was 750 feet from the bottom of the shaft, at a cross-cut on the north side of the entry. There it showed the stopping had been blown partly out into the entry. At the third south—this is off of the main west—door blown south of main west; blown in through the front and partly broken into slivers, but not torn out. From that point I came on to the bottom. Pit cars on the bottom of the west side looked to be blown toward the main shaft. There is generally a bunch of cars on the switch, and they

looked to be forced toward the main shaft. I did n't examine the other entries. Came on to the east side. Here there was an addition added to the company, and were accompanied by Archie Craig, superintendent of the Western Coal and Mining Company, and Archie Kirkwood, superintendent of the Wear Coal Company. Now, on this side, the wreckage had been partly cleared up at the bottom. The overcast had been blown down. All the boards had been blown down from the force of the explosion, but none of the large timbers had been broken, and that was cleared up. They said they had to canvas this to get air into the rest of the mine. They used canvas and oilcloth in place of boards. Mr. Flynn, the mine boss, stated that there was nine mules in the mine; five were burned and crippled, two was killed outright. I saw dead mules on top. Three of these five that were so burned and crippled were killed to put them out of their misery—a humane act. The other four were on the bottom, standing hitched to cars. They were not seriously crippled; one was scorched, and the other showed that its mane and hair was scorched. The others were not hurt. From there go to first south off of main east. The door of that entry was blown out on to the main east entry. At cut-off road from first south, the second south off of main east, at this point a curtain was hanging, the first one that we met that was hanging through the explosion. I examined that curtain along the edge, and the ravelings along the edge were not burned. It was 285 feet from the main east entry to this curtain. The man Charles Winters was found on the second south entry east side, opposite room No. 1 running east, inside hauling cross-cut road for third south. On to room No. 13. At this point a box of squibs were spilled just behind a car, and six matches were found here. Two of these matches he had tried to light and four were not struck." The matches were brought out; at least I told Mr. Fletcher to put them in his pocket.

Q. (by jury). How far was this from where the man was found?

A. It was in the neigborhood of 600 feet. It was up close to the point where he quit firing. I think he got from that point close to 600 feet. He lost his squibs there when he got that far. He was coming out. I made out there he was in the dark and trying to light his lamp at this point.

Q. Do you think the explosion had occurred before this?

A. I think that it was over and that it blew his light out. "I went on to the face of the second south. Here there was two shots, both fired, and no signs of any explosion at that point. Came back to the first east entry off of second south. There is a new east entry just driven in a short distance; on the face three shots, all fired. One room turned off of that first east entry, and one shot in there and it was fired. Last shots fired on his run in that entry. Came back to room 14 on second south; three shots, one tamped and two not tamped, and powder not burned; powder setting up against the coal; the powder to be used there still setting there, not burned. The man who worked in that room left it there. He left it there ready and convenient for the shot-firer. A shot-firer will enter that room, put powder in drill hole, and tamp with bar on needle. Indications show that at about this point this shot-firer, Winters, started to come out of there; no signs of explosion there, but the explosion had occurred and he started from that point to come out. Six hundred and thirty feet from the place where Winters was found was the last room that was not fired. He had gone 630 feet from that point where squibs and matches were found. At the point where he was found was considerable wreckage. Slate and props were blown into the entry where he was found, and this wreckage was not inside from where he had come from."

Q. (by jury). He probably did not know of the explosion until he got into that locality?

A. Yes, he did. "Came out onto the main east entry and went to the third north of the main east."

Q. (by jury). Passed over to the main entry?

A. Yes. "There the door of that entry was blown into the third north, 120 feet or about that, and torn all to pieces; iron work all twisted up. I went on a little further to cross-cut off of third north leading to fourth north. A post stood up there at that point, and the entire inside of that post was scorched. That was the first indication of fire."

Q. (by jury). Didn't you say that the door had blown north and that the scorching was on the north side of the post?

A. I did. The post stood in between this cross-cut and that entry, and the north side was scorched and the other side was not. "In this same cross-cut leading to the fourth there was a lot of rock torn down on top of three cars in that cross-cut. It seems as though the force of that explosion tore the rock down. There was quite a large slab of it torn down and piled up on the cars. The end of the inside car on that cross-cut was burned and charred. It seemed as though the fire had pasted a lot of fine dust up against the end of that car facing east and burned the end of the car and dust into a coke. John Possing was found just inside of this cross-cut."

Q. (by jury). Still east of this car?

A. A little east of the car, on the line of the fourth north entry. This cross-cut is a hauling cross-cut from the fourth north entry to the third north entry. He was headed towards that cross-cut, to come out of there. A prop that was still standing where his head was supposed to be when they found him was burned and charred. It would be the north and east side of the prop, because it was on the southwest side of the break-through. "From this point I went on to room No. 1 off of the fourth north off of main east."

Q. (by jury). Those rooms are numbered from face of main entry?

A. From main entry in. "In this room there was two shots; both shots had been fired. One was ahead of the other, in face of room. Over toward side was both shots. The front shot had been blown out and scattered along the left rib of the room."

Q. (by jury). That was what you would call a good shot?

A. A little better than good. "The second shot, four feet of the drill hole left; about two feet of the drill hole blown off. The drill hole was about six feet deep—six feet at point of shot."

Q. (by jury). Was that anything unusual in a shot?

A. No. "The length of the second shot was nine feet long. I took length of front shot: four feet nine inches; and the width three feet and six inches. That is the shot I explained was all blown out and scattered along the rib. The indications showed that the miner wanted this shot to go first and he probably powdered it more than he ordinarily would in order to get it out of the way of the second shot."

Q. (by jury). They are fired at the same time?

A. The shot-firer lights his squibs at the same time in rotation. "Everything in this room showed signs of an explosion. Coming back a few feet from the face of the room, all the posts which were standing in the room were scorched, and showed that there had been considerable fire there and continued all the way out to where John Possing was found. After I was satisfied with everything else, I

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came back for more details at this point. I took measurements at front and back of the second shot; it was three feet two inches in the front in thickness and three feet eight inches in the back of shot where the drill hole was. The coal was three feet eight inches at this point."

Q. (by jury). Do you call that poor firing?

A. It certainly must have been carelessness on his part. "We were about to leave, but on looking around we found another shot. This other shot had been fired too. It was six feet four inches deep and four and one-half feet wide at the heel of the shot, and ten feet wide on the point of it. The shot had been fired like a clean gunshot. This shot was intended to make a break-through into room No. 2 off of same entry, and had evidently drilled a big, heavy shot in there. It was thirty feet back to face of room where this shot was. It was the intention to make a cross-cut into room No. 2."

Q. (by jury). Did he fire all three of those shots before he left the room?

A. I think he did. It is understood that he was an old shot firer and a practical one. He would fire all while in there and not want to come back again. They usually light all shots in the room. He would light front shot up close, so that it would fire before either of the others. He might light No. 3 first, No. 2 second, and 1 last, and he would leave 2 and 3 with jumpers in the needle hole, powder exposed at both ends of the jumper squibs. By putting jumpers in and tightening squibs the explosion of one wont cause the other to go out. All three of these shots were fired. No. 2 and 3 shots did n't do anything, but No. 1 blew itself entirely clear out.

Q. Do you think that was the shot that caused the explosion?

A. I think either one or both of these; No. 2 and No. 3 both gunned back, and as they were heavy shots they undoubtedly started that explosion. Timber was scorched from there on out. They was fired and did n't break out any coal; they gunned back. From the face of room No. 1 back to the last cross-cut [I was coming back out of the room] it was thirty-eight feet by tape measure from face back to last cross-cut, and the width of that cross-cut was fifteen feet. From room No. 2 off of the same entry, that was the fourth north off of the same entry, had two shots; both fired, both good shots. This is the last of the firing on this run. This is in the third and fourth north entries and its rooms. This was the last on that run he fired. The distance from the face of room No. 1 to where John Possing was found is 264 feet; that is on hauling road leading to where he was found, leading to third north entry off of main east entry." That is the end of the notes I took. At that point is where I found indications of an explosion. It showed that the explosion started from room No. 1, from the two heavy shots. Front shot blown out started up all the dust in the room, and when these other two shots went off, gunned back, it started the explosion from the particles of coal and dust in there, and intensified on its way out, and these two shots were the cause of the explosion.

Q. (by jury). Who was to blame?

A. I would not like to say who was to blame. I believe that would be too far for me to go. I would rather decline from saying who ought to be blamed. I have described the shots.

Q. You have been in the mine before this accident happened?

A. Yes, sir.

Q. In what condition did you find the air?

A. Practically in good condition. There was long distances between the cross-cuts in one or two places; hard to make connections.

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Q. (by Coroner Porter). As State Superintendent of Mines, it seems to me you ought to be an expert in mining matters, and it seems to me that you ought to be able to give an opinion.

A. I admit that I have an opinion. I believe that this jury ought to find the opinion. They might lay weight to my opinion.

Q. (by Coroner Boaz). That is what you are here for. The jury do n't know anything about this business except from the evidence given. You are the man we look to for an opinion.

A. I would add that 2 and 3 were unlawful shots, and ought not to have been fired. The shot-firer should have left those two shots. Possing was firing that run and was found dead in that run. He had not ought to have fired those two shots.

Q. (by jury). Do you consider that miner a competent miner?

A. He may have been, but he did n't leave a practical shot there for the other man to fire. When a shot-firer leaves a shot they usually come back on the firer, and curse him and scold him and say that he ought to have fired that shot. They get so they take more risks and fire when it was not what it ought to be.

Q. The shot-firer is protected for refusing to fire those shots?

A. Often parties shot-firer is working for do not protect him.

Q. You think the miner should not fire unlawful shots?

A. Yes.

Q. Do you think the firer ought to know unlawful shots?

A. If he took any notice of them, he would have known they were unlawful shots.

Q. What is there about a blow-out shot that will produce combustion such as they had here?

A. The supposition is that shots Nos. 2 and 3 both gunned back, and the air had been stirred up by the other shot and the room was then full of smoke and particles of coal-dust, and when these other shots were fired the explosion occurred.

Q. The explosion was then due to dust?

A. Particles of dust and possibly powder smoke added to it, so that it became inflammable, and gathered from the coal-dust that it picked up along the road as it went.

Q. Powder smoke is combustible, is it not?

A. It is explosive.

Q. Was this mine here a good mine for safety—air and so on?

A. One of the best-equipped mines in the state; air good, machinery, air-shaft, all equal to any mine in the state.

Q. (by Coroner Boaz). If the entries had been properly sprinkled and all, and the dust kept down, do you think the explosion would have occurred?

A. I think if the mine had been quite wet it might not have been so large, but think there was elements enough in the room to make an explosion. But if it had been real wet would not have been as much force to it.

Q. (by jury). Is there a state law requiring mines to be sprinkled?

A. They are expected to sprinkle all the roadways and keep the dust down.

Q. That is the law?

A. That is the law.

Q. (by Coroner Boaz). How often does the law require that?

A. Do n't remember if it specifies the number of times it shall be done.

Q. Does the company have to report to you the condition of the mine any number of times?

A. Supposed to fill out an air blank monthly, stating the condition of the

mine; supposed to examine the air-course twice a week. I think this company has done that. I have air blanks from the company. I could tell by hunting through the air blanks that are filed.

Q. (by jury). Is it your duty as State Mine Inspector to examine into the cause of the explosion?

A. Yes, sir.

Q. Without being notified?

A. Yes, sir.

Q. Who will you report to on this?

A. To the governor of the state, Governor Leedy, my findings. I will probably take more time. I will go back to the mine in a day or two and go over the balance of what I did n't go over to-day. But I think I got all the main points in connection with these parties who were killed.

Q. In the ordinary course of business, who would know of the way those two shots were put in, No. 3 and No. 2 you speak of, after they were put in and before this accident happened?

A. The shot-firer would know. He would be most likely the first man to see them after they were put in and before they were fired.

Q. Would nobody have known it except the man who drilled the holes and the shot-firer?

A. If the miner had taken particular notice of them, he would have known. If I had been going through the room, I might have noticed it.

Q. Would anybody be around there to look at those holes?

A. Not ordinarily; other miners would have no business in there.

Q. In the ordinary work of the mine, nobody would be supposed to be in that room except the man who drilled the holes and the shot-firer?

A. No, sir.

Q. Nobody would have any means of knowing about them?

A. Generally speaking, no, sir.

Q. The way the holes were drilled was evidence that the miner who was working in that room was greedy, and wanted to get a lot of work done with a little bit of powder, was it not?

A. I could not say; I do n't know how much powder he had.

Q. They were not carefully prepared holes, were they?

A. No, sir.

Q. Would you not suppose, from your experience as a miner, that he put in shot No. 3 for the purpose of getting out lots of coal with that one shot?

A. Yes.

Q. In your opinion, the explosion originated there in the room where those three shots were fired?

A. That was the starting-point of the explosion and from there it spread.

Q. Did you notice any evidence of fire except on the line that fire would have gone from that point to the shaft?

A. On no other point only there.

Q. In your judgment, if the fire did originate as you have described, there at that place, the coal-dust being stirred up and circulated in the air added to the force of the explosion?

A. Yes; it helped to make it more so.

Q. Your opinion is that it added particularly to the blaze and flame there?

A. Yes, certainly added some to it.

Q. That coal-dust itself would not have exploded without the gunning shots?

A. I do n't think it would had it not been stirred up by those shots.

Q. If the coal-dust had been practically absent from that mine, would the same amount of after-damp have been generated by the gunning shots that was generated?

A. No, not so much after-damp.

Q. Then the presence of the coal-dust produced after-damp?

A. Assisted to produce it.

Q. In what way?

A. By being ignited and consumed.

Q. What you call after-damp is the result of combustion or fire, is it not?

A. Yes, sir; it comes after that.

Q. If there had been no dust in the mine at all, do you suppose that Possing would have met practically the same death?

A. There might not have been so much fire had the dust been absent.

Q. A good deal of that fire came from powder that was tamped into those shots?

A. Yes, sir.

Q. The gunning shots sent out all of the powder that was tamped in there and blazed as it came out?

A. I don't know.

Q. The powder came out blazing fire, and then anything that was in line of it would have been burned, without reference to whether there was any coal-dust there or not, would it not?

A. Any light substance might have been scorched or burnt.

Q. If a man had been standing fifteen or twenty feet in front of that room, would he not have been killed almost instantly?

A. Might have been. The worst indications of fire was outside of the room where these shots were fired. The timbers in the room were scorched. Outside they were scorched also.

Q. (by jury). The fire gathered volume after coming out of there?

A. That is my opinion. Gathered dust and intensified it.

Q. Do you think any fire reached the foot of the shaft?

A. Looks as though fire came out of it. The posts around the bottom show they had not been burned with fire. Top of shaft shows that timbers up there were burnt and charred.

Q. Do you consider shot-firing dangerous work—more dangerous than other mining?

A. Yes, shot-firing is more dangerovs work.

Q. Do you know of any examination a shot-firer has to go through with?

A. The law provides that the mine foreman shall hire competent shot-firers to do shot-firing. It is left to his judgment whether they are competent or not. Mine foreman wants to get practical firers and men of good judgment.

Q. Is it his business to go around and inspect the work?

A. Not particularly so. The law does not require him to go from place to place.

Q. How does he know a man is a practical shot-firer?

A. He may have known the man some little time. He may know him from reputation; may have heard of him from this company or that company.

Q. Is it his duty to follow up reports and find out whether he is a competent man?

A. He generally finds it out in a little while. The men or miners he is firing for report him if he does not do good work, or do something so that his attention is called to the fact.

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A. K. CRAIG, being first duly sworn, testified as follows:

Q. (by Coroner Boaz). What is your name?

A. A. K. Craig.

Q. (by Coroner Porter). What is your occupation, Mr. Craig?

A. District superintendent of the Western Coal and Mining Company.

Q. Have you visited the room in which you suppose the explosion to have started?

A. Yes, sir.

Q. Describe to the jury, please, what caused the explosion; what you think about it and how it started.

A. The origination of the explosion, I think, was in room No. 1, north entry on east side of shaft; cause, two blown-out shots.

Q. You may state to the jury the condition in which you found room No. 1.

A. Well, in the first room off of the fourth north entry there were three shots prepared by the miner, and all three of those shots were fired, the shots 1 and 2 being on the right-hand rib or the south side of the room, and No. 3 shot being on the north side of the room. The intention of the one who prepared shot No. 3 was to make a break-through into room No. 2, which is on the left-hand side of room 1. Shot No. 1 was the shot that was intended to free or to extend the chance of shot No. 2, as one shot was turned ahead of the other. Shot No. 1 did its work well. It blew the coal for a distance of not less than twelve feet from where it was originally. Shots Nos. 2 and 3 were not prepared to give the powder a chance to do work well. I believe that I stated that 2 and 3 were windy shots or blown-out shots. They are the same thing.

Q. (by Coroner Boaz). How many break-throughs were there in this room?

A. Two or three. I am not positive; two that I know of.

Q. Were either of them closed up?

A. I did n't examine any of them only the one nearest the face. That was open, and it was right that it should be open.

Q. You do n't know whether the other was closed up?

A. I do n't know.

Q. What is the rule about the break-throughs?

A. As a general rule they are closed up. The break-throughs between all entries, I believe, are well stopped. It may not be practice to close up all break-throughs in a room, but whenever it is found necessary to close up a break-through in order to advance the air to the face I think it would be done.

Q. Is there any law in regard to closing or keeping open these break-throughs?

A. Yes, sir.

Q. How many are required to be left open?

A. One, nearest the face; and a new one must be made before the old one is closed, so as to give perfect connection from the main shaft or from the air-shaft. It depends on which shaft is being used for exhaust.

Q. You do not know whether the other break-throughs were closed up?

A. No, sir; I did not examine them. From what I saw from going through the mine Saturday evening, I think the force of the explosion opened nearly all of the break-throughs or blew out nearly all of the stoppings.

Q. (by jury). How far apart are these break-throughs?

A. Various lengths and distances. If the miner strikes a fault, it is a little nearer or farther. If they strike a horseback, it is sometimes best to make a break-through on the inside of the horseback.

Q. (by Coroner Boaz). In this particular case, what effect would the failure to close these two break-throughs from the face have on the explosion?

A. None whatever, in my judgment.

Q. (by jury). You spoke of those two shots not being well constructed; would you consider those dangerous shots if you had seen them before they were fired?

A. Yes, sir; if I had stopped to examine those shots I would not have fired them. If I had been a shot-firer I would certainly not have fired the shots, if I had stopped to examine them.

Q. (by Coroner Porter). Should the pit boss or any of his assistants have known of the condition of these shots?

A. No, sir; not necessarily so. When the pit boss hires the shot-firer he is generally questioned as to his experience; that is, as to what experience he has had; and many times pit boss makes inquiry. The statements that he obtains from other parties as to this man applying for a job as shot-firer, as to his ability —he allows that to govern his judgment to commence with. If he has a reputation of being a good shot-firer he allows that to be his judgment as to whether he shall hire him or not, and then after he has fired a few times nobody finds it out quicker than the miner, as to whether he is a good firer; and then nobody finds it out quicker than the pit boss as to whether he is a good or bad shot-firer.

Q. Is a shot-firer allowed to use his discretion in the shots that he fires?

A. Yes, sir. I consider when the five o'clock whistle blows that is notice that the miners should cease work. Of course, the miners inside cannot hear the whistle. They know when it is five o'clock, though, for the drivers quit running. The miner is then supposed to stop. Between that time and six, the shot-firer is supposed to begin his work. He should use his judgment as to whether a shot is prepared properly or whether he should fire it or not. He has the right to say whether he shall fire it or not. For the information of the jury, I will say that I have heard of cases where the shot-firer has refused to fire shots; and I never knew of a time where he did but what he had the full support of the company he was working for. The miner who prepared the shot will kick because he loses his powder, but the shot-firer is really in charge of the mine until he is through firing the shots.

Q. (by jury). Did you ever know of a case where the miner would ask why his shot was not fired?

A. Yes, sir. There have been times where the shot-firer has not fired, and that miner thought that his judgment was good, and the shot-firer did not think so, and the matter came up before the pit boss and superintendent. Of course, when a miner loses three and a half feet of powder it represents so much money lost, and he naturally would have a kick coming.

Q. You know nothing about in it this particular case?

A. No, sir.

Q. How far was this break-through that was open from the shots in this room?

A. You mean the cross-cut, the last open—the one that I saw open? Thirty-eight feet from that one to the one they had fired the shot for, and it was probably fifteen feet to the face.

Q. (by Coroner Porter). Did you see any evidence of dust explosion or the combustion of dust?

A. No evidence of dust. The explosion was caused from two blown-out shots.

Q. Was this force transmitted to the dust that was there?

A. When a shot is fired it would stir up the small particles, and very fine

flour dust that is in the mines will become suspended, and coming in contact with flame would naturally burn.

Q. Now, the miners or operators or the company, are they responsible for the condition of a miner's room; are they expected to see that there is not a large amount of dust in the miner's room?

A. A miner is responsible for his room so many feet back from the face of the coal, and you will find more dust in there than you will find in any other part of his room.

Q. The law does not contemplate the sprinkling of any part of the mine except the driveways?

A. If the law provides that this mine or any mine in the state of Kansas shall be sprinkled for the purpose of preventing an explosion or anything else, I do n't know it.

Q. Is it customary for the company to sprinkle?

A. In many cases it is. It makes better roads. When the mine is dry, and mules running over road makes holes, and makes bad traveling. Sprinkling to avoid that. The drivers then make better time. That is done quite often; probably in all mines of any consequence in this district.

Q. In your judgment, that room was properly ventilated?

A. Yes, sir; I think it was all right. I do n't think there is another mine in the state of Kansas or west of the Mississippi river better equipped below or on top than mine No. 5 at Chicopee, Kan.

Q. You think this special room was properly ventilated?

A. Yes, sir.

Q. (by jury). Then you think those two windy shots caused the explosion?

A. Yes, sir. If the firer had stopped when he came to these two shots I do n't think there would have been an explosion. If it was not done by these two shots, why did n't the shots behind these cause the explosion? There is just as much dust in one part of the mine as there is in another where coal is mined.

Q. Was shot No. 1 prepared to work in workmanlike manner?

A. Yes, sir; and it did its work well.

Q. Did it tear the coal up and make much dust?

A. It was mine-run coal.

Q. I do n't know the meaning of that term.

A. I mean that it was about sixty-five or seventy-five per cent. nut and slack and the balance lump.

(By Coroner Porter). [Reads from the Session Laws of 1897, chapter 149, sec. 41; reads to the jury from the book.]

Q. In your observation in coal-mining in this district, where the coal is mined by the use of powder, what has heretofore been the purpose of the sprinkling of the hauling way?

A. For the purpose of packing the roads.

Q. What condition was found in case that was not done? Would the dust arise and make it uncomfortable for people?

A. Yes, sir; and for drivers hauling the coal. It is better to moisten the road.

Q. This is done to make a solid road?

A. Yes, sir.

Q. Do you know any way by which a shot-firer who should come into a room and find one or more shots tamped and ready for firing could tell with certainty whether any of the shots would be a gunning shot or not?

A. I think to a great extent he could, by examining the shots thoroughly to see if they were safe to fire.

Q. Could a miner tell how deep the drill hole was by looking at it after it is tamped?

A. If he could needle his hole to the back he could. If tamped, hard to tell.

Q. Could he tell without taking the tamping out or else shooting it off?

A. Not with the tools usually used by miners.

Q. Did you ever see any tools in this section of the country which a miner could use and tell the depth of drill hole?

A. No, sir.

Q. Then he don't know how deep it is looking at it, and don't know how much powder is in it or at what angle it is drilled?

A. No, sir; only that portion of the hole needle is in.

Q. He can't tell how much powder there is in the hole?

A. No, sir.

Q. If he can't tell by looking at the face of the coal or examining outside end, how can he tell whether it is a safe shot?

A. The position the needle is in gives him the direction the hole is drilled—gives him the angle the hole is drilled; then he can form his opinion as to whether the shot is able to do the work or not.

Q. If he don't know how deep it is or how much powder there is in the hole, how can he tell?

A. He can form an idea by the chance he has. If it is a short chance, the hole is not so deep nor so much powder.

Q. What is a chance?

A. A portion of the coal stands back from the main face of the coal. Want it off of side for an entrance. Always one shot put in in advance of the other. That will tell you.

Q. From that can you conclude how deep the hole is drilled?

A. You can.

Q. You would only go by customary depth?

A. Yes, sir.

Q. Then a shot-firer could not know with certainty the depth, angle or how much powder in the hole, and therefore could n't absolutely conclude how much of a break-off shot was intended to make?

A. He could discern the angle of the hole, the quantity of powder used; but could not tell positively about the powder. A great many of the holes are not tamped and the shot-firer has to tamp them.

Q. Can a shot-firer, by examination of a hole already tamped and ready to be squibbed and fired—can he tell with any degree of certainty whether it will be a gunning shot when it is fired?

A. I believe as a general rule, if he stops to consider, he can.

Q. That would require careful observation, would it not?

A. Yes, sir.

Q. Is it not true that a shot-firer should exercise his own judgment as to whether he should fire a shot that is tamped and ready to be fired, and that among ordinary skilled miners the miner before drilling the hole should exercise care and skill and observation in determining where to drill, how deep, and how much powder to put in the drill hole?

A. Yes, sir.

Q. Would he not be more cautious if he was going to fire it himself?

A. That might be true in some cases.

Q. (by jury). Is there any reasonable limit to the amount of powder a miner should use?

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A. Yes, sir.

Q. What is a needle? Are these needles used to ascertain the depth of the drill hole or for what are they used?

A. No, sir; they are used when the powder is put into the hole. The needle is inserted, and that punctures the cartridge in which the needle is left, and after tamped the needle is withdrawn, leaving a channel from the face of the coal to the powder.

Q. Does that needle extend away back?

A. The miner will insert the needle into the powder sufficient to insure a safe shot.

Q. (by Coroner Boaz). When a shot firer ascertains the amount of powder in a hole does he really know the amount or does he guess at it?

A. There is not a man in the district but calculates in his mind when he goes to load a hole about what is necessary to produce good work. He puts in so many inches of powder. They generally know what it requires to do the work.

Q. Sizes up about the amount of coal that the shot is to blow out?

A. Yes.

Q. (by jury). You said a shot-firer could tell whether a shot would be good or bad. When a man applies to you for work as a shot-firer, what do you examine him on?

A. He is not examined. We simply question him; find out where and how long he has fired. We refer to some of the parties for whom he has been working.

Q. No shot-firer is a good shot-firer unless he is a good coal digger first, is he?

A. That is right; he must be a practical coal digger; but very many practical business men will sometimes make a mistake.

Q. (by Coroner Porter). What force would you expect to get more than the increase in the volume and lightness of the air in the explosion?

A. That is hard to determine. In order to answer that question you would have to know or assume the quantity of fuel that would be burned.

Q. I did not mean the air. Would you get any force other than the expansion of the air?

A. No, sir.

ANTHONY GALLAGHER, being duly sworn, testified as follows:

Q. (by Coroner Porter). Mr. Gallagher, what is your occupation?

A. Well, in the present time I am employed in the capacity of company man in mine No. 5.

Q. What has been your duties recently?

A. To examine some of the entries in the mine and see if there is any faults; attend to some timbering if necessary, and look after the general ventilation in the mine.

Q. Do you know the condition of that room as to the ventilation?

A. No, sir; not my duty to examine rooms that I know of. I am supposed to fix doors, so that the air may circulate as near the face as possible; but it is impossible for one man to attend to it.

Q. Whose duty is it supposed to be to fill up break-throughs? the miners?

A. Supposed to be any one's duty who is told by the boss to do it.

Q. Do you know anything about the condition of the entries leading to No. 4 in regard to dust?

A. I have been in there recently, and my observation in going along there, fourth entry off of east side, I could not see any great amount of dust laying around there—slate, coal, etc., laying along the track.

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Q. Do you consider the roadway dusty in this particular entry down to the shaft?

A. That entry do n't lead to the shaft; leads to the main. So far as the fourth entry is concerned, do n't consider it dangerous as far as dust is concerned. Have not paid much attention to it; not my duty to examine for dust, but may come under my observation on my rounds some time.

Q. (by jury). Did you say any part of your work was to fill up these openings in these rooms with curtains or dirt, or whatever it might be?

[Witness asks, "Are you a juror?" Juror, "Yes, sir."]

A. Yes; the law determines that those break-throughs should be filled up or made air-tight, and I am the only one in that mine who has been looking after the ventilation of the mine, and my duty is to look after those break-throughs and fill them up.

Q. Did you fill up any in this room?

A. I only filled up between entries; have not seen any break-throughs between any of the rooms.

Q. Did you ever examine the air in this special room; you say you look after the air and see if the ventilation is good?

A. Not specially in that room; not my duty to go into them except when called.

Q. (by Coroner Porter). Do you mean to say that it is the miners' duty to call your attention to the air if it gets bad?

A. They generally do. The law prescribes the duty of the mine foreman.

Q. (by jury). Whose duty is it to see that the mine is in good condition?

A. It is the duty of the mine boss in charge of the mine. I am not the mine boss. I am engaged as a day hand, but my duty is to look after the ventilation.

Q. Then, if the air was to get bad, would the miner report it?

A. He would report to the mine boss, and the mine boss would probably tell me, and I would go and see if I could remedy it.

R. Q. What was the condition of the mine as to ventilation in a general way?

[Witness asks, "Who do you represent?" A. "I am a representative of the Mt. Carmel Coal Company."]

A. The general condition of the mine as far as ventilation was concerned was what I considered good, with the exceptions of some rooms that was drove further in than the law required without break-throughs.

Q. How many such rooms did you know of?

A. Never made memorandum of them.

Q. Did you report to any of your employers having found such rooms?

A. My employers were around the rooms as much as me, and if I had said anything to them about it I would politely be told none of my business.

Q. You say you did not tell any one else of any such rooms?

A. I did not on this occasion; might have done some time previous.

Q. Are you acquainted with many other shafts?

A. I have been in every coal-mine in the state of Kansas.

Q. How does No. 5 compare with the other coal-mines in Crawford and Cherokee counties?

A. The general condition of this mine is good.

THE INQUEST.

Coroner Porter impaneled a jury at two o'clock yesterday afternoon to investigate the immediate cause of the death of Charles Winters, John Possing, and Anton Weinberger, the three victims of the mine disaster.

The jury is J. A. Beach, of the "Regulator" store; Dr. Wm. Williams; L. T. Huffman; C. E. Grandle and H. C. Kaylor, school-teachers; and W. A. Biggs, a farmer.

The testimony of J. R. Bell, underground superintendent of Chicopee and Frontenac mines; Ed. Flynn, pit boss; James Russell, miner; A. B. Kirkwood, superintendent of the Wear Coal Company's properties; and Dr. H. C. Gregg, the company doctor at Chicopee, was received yesterday, after which an adjournment was taken until eleven o'clock this morning.

JAMES RUSSELL, an entry driver, who helped to find the men as soon as the mine could be entered, testified:

Q. (by a juryman). Is there anything besides gas which will explode?

A. I don't know.

Q. Was there much dust in the mine?

A. Never dusty when I worked, although shaft was pretty dusty sometimes. When gas is found in a drill hole it is not considered dangerous. Charles Winters was found at 2 A. M., January 9. One body was found 800 feet from main shaft on east side. A windy shot may or may not cause an explosion like this one. I work in the second south and east entry. I was slightly acquainted with Possing, who lies there dead.

J. BELL, underground superintendent for the Mt. Carmel Coal Company both at Frontenac and Chicopee, testified:

On Saturday morning before the explosion air was good in this mine; have sprinkled the mine regularly, generally at night; do not know whether it was sprinkled the night before. I was lowered to the bottom by a rope; found the doors of the cross-cut broken; found the dead men as follows: One in first west room off second north entry, east side, 1200 feet from shaft; one in room on east side, and one in room in north entry on east side. Door on east side of main entry was blown in; have no idea where the explosion started; found one tin can with two pounds of powder in it; some of the men were overcome with afterdamp; don't know anything of the chemistry of gases. The man with the burned hand was found in the fourth north entry of the main east; was at switch, lying on right side; room is 450 feet north of main east.

DR. H. C. GREGG, the company's physician at Chicopee, (succeeding Doctor Germain January 1,) testified:

First saw bodies in the mine in the main entry; was within three hours after explosion; did not hear of explosion; was sitting in east room of my office in Chicopee; when found the men were dead; noticed no indications as to cause of death; one was badly burned; this was sufficient to cause death; did not examine them closely; noticed a little blood on one's lower lip; asphyxiation might or might not cause hemorrhage; blood clot probably caused by injury; have no opinion as to cause of death; saw no evidence of asphyxiation by gas; did not make very close examination; other physicians did, and took their word. [Here he said to the lawyer, defiantly, "Do I have to express my opinion?"] I was here to care for the injured and not to examine particularly; do not know the immediate cause of the death.

A. B. KIRKWOOD, superintendent of the Wear Coal Company, arrived on the scene soon after the explosion, and as soon as the air was cleared a little he went to the bottom. He testified as follows:

I found an explosion here; had heard report; arrived here about 7:30; saw top of mine wrecked more or less; noticed men below on bottom in main shaft;

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considerable work done on top; some temporary repairs made on fan house; roof of it was blown off. In company with several others tried to get down in fan house in the air-shaft, and finally Craig, Bone, Nugent and I went down in the air-shaft to the bottom; first tried to go in on the west side; main air-courses leading from the air-shaft; noticed as we went on that side air was very weak, and that powder smoke and after-damp was stronger on that side than on east side of air-shaft. We then went on east side air-course to the cut-off leading to the overcast, thinking to get through there to the bottom. Finding the overcast all bratticed up we came back to the air-course leading east again, and went out to the first north entry just in front of mule stable; saw two mules tied up to piece of water-pipe standing in the north entry; seemed to be badly burned.

We went into mule stable and made casual examination of it, thinking some one might be in there. We found no one. Noticed three mules in the stable; one of them was standing up and two of them were lying down; did n't see any evidence of fire in the mule stable, but there was hay lying all around that did n't seem to be scorched. Then went through on the main entry; found a trap-door partly broken; found Mr. Fletcher there, the first man we met; noticed pit cars broken, piled up in the bottom; also two mules, one standing up; the results of explosion seemed to be much worse on the east side than on the west side, judging from bottom of shaft. I think Mr. Fletcher, Mr. Craig and I then tried to get to the face of east main entry; got as far as the fifth south entry, I think. We were quite a distance in advance of men who were putting in temporary stop in main entry. Mr. Fletcher had a safety-lamp with him testing gas; examining air for gas as far as we could go; did not find any gas; then went over on the west side; went in the first north entry, probably 400 or 500 feet; we met some parties coming out who had been up in that portion of the mine.

That's about as far as I went on that side of the shaft; sat there about twenty minutes, I guess. Mr. Fletcher and the other men went back into the second west off the first north; I was still there when they came up bringing one of the bodies with them. Saw no indications of flame or fire; did not seem to be burned; did n't see a mark upon him except a little froth on the mouth; considerable after-damp in the air; air was hotter than after ordinary firing of shots, because no current of air was secured; had naked lights in the pit. Fan was started before I went down into shaft. Had not determined whether the explosion had been from the east or the west; though it started from the fourth north; would not give an opinion from superficial examination; have no opinion; I do n't think it was gas; I do n't think dust would explode without another agency.

A keg of powder is twenty-five pounds; would make a large explosion. We looked at some of the powder boxes in the first room of the fifth south, or in the back air-course going east; powder tins turned over and powder spilled upon the ground; was not burned. Noticed the bodies of the three men; noticed the burned man. He was found in the fourth north entry on the east side. The other bodies were not burned. This man John Possing seemed to have been struck. One body found 500 feet north; Winters 700 feet south and about 600 west. Noticed no kegs of powder; everybody paying more attention to getting out the dead than to looking for evidences of the cause of the disaster. Possihg was lying on his right side, as if he had dropped from standing position.

Q. Was body in position to indicate that he fell from standing position?

A. Probably dropped from standing position. Mr. Craig and I examined a prop, and found it thickly covered with dirt, indicating its being blown there. Winters was in the back entry, head lying toward the cross-cut, as if making there. There was a squib box. Head, arms and hands very much burned.

BEN SHIRARD, the man who was first to come out of the shaft after the explosion, attended the inquest Sunday; testimony as given by him:

Live west of Pittsburg; have been shot-firing one month yesterday; live west of No. 20 mine; two miles west of Fourth street; was in the mine Saturday night shot-firing at No. 5; I had started in first south entry on west side of shaft; finished on the first south, and went through cross-cut to the second south into last room on second south next to the face; had two shots in last room; one was tamped, the other one was left for me to tamp. I started to tamp the hole, and as I got about half through I felt hot air; felt it in my ears; knocked me a little deaf. I turned around; saw a little smoke coming; thought it was dust at first; finished tamping hole and squibbed both shots, and I had a shot missed in the first; I thought I would go back into second south and fire it until the smoke cleared away; after coming out of room went into entry; I saw the smoke getting thicker; held my lamp out and saw no air coming; on other nights a piece of paper would be blown away; I had no idea of an explosion; I thought some other shot-firer had a windy shot that had blown down one of the doors or the brattices which kept the air from coming up; I went into the first south at face of entry and found shot I missed; squibbed it and lit it; came back through the cross-cut in the second south; got out far enough so the shot would not catch me; held my lamp out again while waiting and saw there was no air coming; the shot went; after the shot went I went into the room where I had the two shots squibbed; lit both of the shots and both went; by that time smoke was getting so thick that I thought it was time for me to get out.

I went 200 or 250 feet where the smoke was n't so bad, but after that it was getting so thick I would fall every step I took; explosion did n't blow my light out, but it did n't do me any good; I could see nothing, smoke was so thick; I found my way out by holding to the rails and guiding myself out. When I got to the cross-cut then it was clear; that was about 200 feet from the mouth of the first south; as soon as I got to the cross-cut I fell; I lay there about two minutes. Then I had strength enough to go on. [To a question.] No, sir; it was not powder smoke. I have been through powder smoke at No. 20. It was a sulphur smoke. It was a black smoke; powder smoke is blue. Did n't find any there like it except around smelters. Got up about half way of the manway and there was some more smoke standing; then looked; saw I could not get through the smoke so went back to the bottom; everything clear there; clear as any time; I went to the shaft and called up to some of the boys; asked them if I could get on the cage. They answered no; they were not sure about the cage. They asked me if I was all right; I answered yes, I was n't hurt; I told them to keep everything all right and not drop anything and I would climb up, which I did. Six of us shot-firers went down at the same time. On one side, myself, Joe Zetter, and Tony Weinberger, and on the other side, Jas. Zimmerman, John Possing, and Chas. Winters. Do n't hardly know cause of explosion; think it was a blow-out shot; not enough gas in there to cause an explosion.

Q. When did you notice peculiar color of smoke?

A. Right after I fired two shots; got pretty dark and thick; did n't hear explosion; no sudden move at all; when I saw the air was not working I thought it time to get out; I was 1200 feet from bottom of shaft.

THE VERDICT OF THE JURY.

The verdict of the jury in the coroner's investigation was returned yesterday, January 11, 1898, and the evidence of a number of witnesses was taken. Among those who testified were J. C. Fletcher, superintendent of the Mt. Carmel Coal

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Company's mines at Chicopee and Frontenac; James Zimmerman, the man who lived in the mine for fifteen hours after the explosion and escaped alive; Tom Flynn, who was among the rescuing party; State Mine Inspector McGrath, and many others. The testimony being all in, the jury returned the following verdict:

We, the jury, find that the dead bodies are those of John Possing, Charles Winters, and Anton Weinberger, all shot-firers at No. 5 of the Mt. Carmel Coal Company; that the said John Possing, Charles Winters and Anton Weinberger came to their death by an explosion caused by gas generated from two windy shots supposed to have been fired by said John Possing; that the cause of said Possing's death was the result of burns received from the flame of said shots; that the cause of the death of Charles Winters and Anton Weinberger was asphyxia resulting from the effects of said shots fired by said Possing. We further find, that the said explosion was intensified by dust gathered in the rooms where the said Possing had fired previous shots in rapid succession.

(Signed) J. A. BEACH. C. E. GRANDLE.
DR. WM. WILLIAMS. H. C. KAYLOR.
L. T. HUFFMAN. W. A. BRIGGS.

A map showing the underground workings of this mine may be found between pages 16 and 17 of this report; also a record of the inspection on pages 13–15.

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THE LEAVENWORTH COAL-MINE.

To his Excellency John W. Leedy, Governor:

HONORED SIR—I herewith respectfully submit for your consideration a report of my inspection and survey of the coal-mine owned and operated by the Leavenworth Coal Company, of Leavenworth, Kan., of which John E. Carr is superintendent, and which mine is supposed to be located on or under a tract of twenty acres on the southeast corner of the government military reservation in Leavenworth county, state of Kansas.

On June 5, 1897, I communicated officially with John E. Carr, superintendent of the above-described mine of the Leavenworth Coal Company, and requested him to furnish me with a map of this mine, as provided by the laws of Kansas. To this request and communication I received no reply. Soon after that time I officially visited this mine and inspected it, and while on this official visit I called Mr. John E. Carr's attention to my request for a copy of the map of this mine, and in answer he stated that they had been and were still very busy building a new pit tower, and as soon as he could get time to do it he would have a copy of the map prepared and sent to me.

Some time later, in the latter part of September, 1897, I was notified of a fatal accident in this mine, and again visited it. At this time I again called Mr. John E. Carr's attention to my request for a copy of the map which he had formerly promised but had not yet delivered to me, and his answer at this time was that they were still very busy and he had found no time to prepare the copy of the map. I then asked Mr. Carr if he had any objections to me having a copy of the map made. In answer, he said "No," but that he would go to work and have a copy of their map made if he found time to do so before I would begin to have one made.

On the 13th day of October, 1897, having received no map of the mine, I proceeded to have a copy of their map made for my official use, and had one made.

On procuring this copy and carefully examining the same, and having previously familiarized myself with the underground workings of the mine, I became satisfied that the map did not fully represent the extent of the workings, and, being unable to establish my belief without an actual survey of the mine and its environments, I proceeded without unnecessary delay to have such survey made.

A part of the older workings of this mine are closed and abandoned, and are consequently inaccessible to a resurvey. To the extent

of these closed and abandoned parts I have accepted the representations made by the company's map; and some other parts exhibited by their map, although not closed and abandoned, I believed to be sufficiently represented and made no resurvey of them. But such parts of this mine as I believed to be inaccurately represented I had resurveyed, and the results are exhibited on the accompanying blue-print copy of the map made from this resurvey, and fully justify my doubts as to the inaccuracies of the company's map.

The survey for determining this work was conducted under my directions and in the following manner:

On the southwest corner of Dakota and Second streets and also on the southwest corner of Ottawa and Second streets in the city of Leavenworth and state of Kansas are two officially established corners whence official surveys are extended and are described thus: On the southwest corner of Dakota and Second streets, "the northeast corner of brick building marked thus, X"; on the southwest corner of Ottawa and Second streets, "notch in stone wall marked thus, X."

From the above officially established points we produced the west line of Second street north to its intersection with the south line of the government military reservation, in Leavenworth county, Kansas; thence east on the south line of the above reservation one hundred and twenty-five (125) feet; thence angle twenty degrees and ten minutes left (20° 10′) for three hundred and thirty-nine feet and ten inches (339′ 10″); thence angle forty-five degrees and forty minutes (45° 40′) right for thirty-two feet and six inches (32′ 6″), at which point is the west line of the main shaft of the north cage communicating with the underground workings of the aforesaid Leavenworth Coal Company's mine.

The survey of the underground workings was connected with the above written location or "top lines" by plumb lines of copper wire hung in the above-located main shaft.

This main shaft is situated about two hundred and fifteen (215) feet west from the west bank of the Missouri river. The underground workings extend eastward from the west bank of the Missouri river about one thousand two hundred (1200) feet under the river-bed. Approximately parallel to the river bank and in the direction of the course of the river, the workings extend about five thousand (5000) feet northward from the shaft aforesaid, and about seven hundred (700) feet southward from said main shaft—all under the river-bed. The remote boundary line of these underground workings under the river-bed is irregular.

The exact area of these workings under the river-bed, as ascertained by the accurate survey which I have caused to be made of them, and as shown by the accompanying blue print of map, is five million two

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hundred and nineteen thousand two hundred and two (5,219,202) superficial feet, equaling one hundred and nineteen and four-fifths plus (119⅘+) acres. These measurements were ascertained by triangulation. From this survey made and exhibited as above written and as exhibited by the accompanying map, it seems that the Leavenworth Coal Company has been mining largely on the property of the state of Kansas, and, with this belief, I would respectfully invite your excellency's attention to the subject on behalf of the state of Kansas; and if, as I assume to be the case, the river-bed of the Missouri river or any part of it at this place is the property of the state of Kansas, the state may be entitled to some remuneration for the coal removed from beneath the river-bed by the aforesaid Leavenworth Coal Co.

Assuming that the above-named coal company has trespassed on the property of the state of Kansas, I have made accurate measurements of the thickness of the coal-vein at seventy-four different points, distributed over the south and east portions of the workings, as shown by the accompanying map, and I find the actual average thickness of the coal-vein to be twenty-three and one-fourth (23¼) inches; but I have used as a basis for the calculations hereafter made only twenty-two (22) inches, allowing one and one-fourth (1¼) inches for sulphur, etc. I have also for these calculations assigned eighty (80) pounds as the weight of one cubic foot of coal, solid, or one bushel of coal for each cubic foot of the solid coal mined in these workings. Although authorities assign eighty-four pounds to the cubic foot of solid bituminous coal, I prefer to assume a lower basis on which to calculate, so as to be safely within the lines of fact.

With these bases for my calculations, I find the following results: 5,219,202 superficial feet multiplied by 1⅚ feet, average thickness of coal-vein, equals 9,568,537 bushels of coal, or 38,274½ tons; averaging 79,870$\frac{9}{10}$ bushels of coal per acre.

I believe that two and one-half mills is the minimum royalty paid for coal-mining privileges; at this rate, the royalty on the quantity of coal mined on what I assume to be state property by the Leavenworth Coal Company, as exhibited by the accompanying map, would amount to $23,921.34¼. This would make a rate per acre of $201.34.

Referring to the rate of royalty, I believe five mills per bushel would be just and fair. At this rate of royalty, the state would be entitled to receive the sum of $47,842.68½ from the Leavenworth Coal Company. Accompanying this report I present bill of expense incurred in survey. Very respectfully submitted.

GEO. T. MCGRATH,
State Coal-Mine Inspector.

Topeka, Kansas,
December 6, 1897.

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MINES LEASED.

In answer to an inquiry as to the number of mines the Kansas Commercial Coal Company had leased, the term of lease, and the amount paid for privilege of lease, the Inspector received the following reply:

KANSAS CITY, Mo., September 21, 1897.

Geo. T. McGrath, Esq., State Mine Inspector, Weir City, Kan.:

DEAR SIR—Replying to your favor of 20th, would say that we have the following properties leased:

Columbus Coal Co	One mine,	Columbus, Kan.
Hamilton & Braidwood	"	No. 2, Weir City, Kan.
Hamilton & Grant	"	Weir City, Kan.
Southwestern Coal Co	"	Cornell, Kan.
Fuller C. & M. Co	"	Fuller, Kan.

Term of lease, five years. These leases commenced December 1, 1896.

This company does not state the amount of money paid for the privilege of the five years' lease. Yours truly, S. W. KNIFFIN, *President.*

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ACCIDENTS.

FATAL AND NON-FATAL.

At the J. H. Durkee Coal Company's shaft No. 1, Henry Combs, a miner, met with an accident from a fall of slate breaking his leg above ankle. It seems from information obtainable that Mr. Combs was very careless, and neglected to set timber in his room. Mike Keaton, a miner working in the same entry, was in Mr. Combs's room. Noticing the slate, he asked Mr. Combs if he was not afraid to work under it without setting props, Mr. Combs seemed to think it was all right, and as he came out under the edge of the slate it fell, striking and breaking his leg above the ankle. Mr. Combs was fifty-four years of age. While he received good care, his limb healed slowly, and the result was that some weeks later, from confinement and other sickness, he died.

At the Hamilton & Braidwood Coal Company's mine No. 1, Wm. Spence, a miner, had his leg broken by a fall of coal. This accident occurred in Bennett Brown's time, and as he did not give me the details I could not state just how it happened.

At the Kansas & Texas Coal Company's mine No. 18, Wm. H. Barrett, lessee, Joseph Goodman, aged 26, met with a fatal accident while in an epileptic fit. At the time of the accident the Inspector was in the other end of the state visiting mines, and upon being notified of the accident started at once, and arrived at the mine on Wednesday at noon, October 20, 1897, and at once went to the place where Joseph Goodman worked, which was the sixth room back from face of eighth east entry off main north entry, accompanied by the driver, Dan Adamson, the man who found Joseph Goodman dead in the room. Mr. Adamson went into the room to see why Mr. Goodman did not push his car out, and he stated that he never had anything to shock him as that did, for he had been calling him for not pushing the car out, and after going in and finding him dead it made him feel bad. Distance room driven up from entry, 106 feet; there are four break-throughs in the room. While the room was clear the air was very light. This miner was subject to epileptic fits, and all indications showed that he met his death while in one of those fits by falling on his face in a small pool of water about three inches deep, and is supposed to have drowned or smothered. The Inspector was personally acquainted with Mr. Goodman, and knew him to be a quiet