



MANX MINES ROCKS AND MINERALS

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SIDELIGHTS ON MINING METHODS
FROM A LAXEY INQUEST 1875

[Edward Kelly, a labourer who has been working in the mines for nine years and aged 23, is giving evidence.]

'I have been working in the partnership of William and Henry Richards and John and Robert Kelly, miners, for some time past, they were engaged in overhand stoping in the 170 level south of Dumbell's Shaft. I and John Faragher and William Currie were their labourers in carrying out the works we had in hand. It was necessary throughout to blast with powder. The stoping is let out by the fathom to the miners. All necessary tools are supplied by the company. Dynamite is used in the mines, but there was none in use at this particular place, where the deceased met his death. The miners are employed at the work in eight hour shifts. Other men were working within a short distance from where the deceased were.

On Saturday 28th ult. we had as usual to go to our work in the mine at 7 o'clock in the morning. The steel drills necessary to carry on work were taken down. The powder is kept in the level. This powder is taken down by the evening shift and kept in tins containing four or five pounds. The tins are placed on a shelf with their covers on them, about four in number. The first thing we did when we got down to the level was to get our gear. Some of the party went to get water, which was required to be put into the holes during the process of boring. The three miners aforesaid then went to see where they were to commence working; we followed with the gear and all of us commenced our work together, which was boring the rock preparatory to a blast. They all commenced boring the rock. The rock was a kind of white spar. The

jumper was driving into the 'lough', which term refers to a natural cavity in the rock - not of infrequent occurrence. He got the jumper out and started to drive a fresh hole and waited until the others had got their holes bored, in order that they might be charged together. While we were working we had to use candles. The candles are fastened into a clay socket, and fastened on the top of our hats when walking or going up or down in the mine, but when we are working the candles are stuck on the rock at the nearest place, to throw best light to the jumper. Our candle was placed about one yard and a half from the hole. I do not know the position of the other candles. Smoking is carried on in the mine, and matches are indispensable. Robert Kelly's hole was also bored. The powder was then brought to charge the holes that were ready to receive it. It then became necessary to use certain instruments to put the powder into the holes. These instruments were a pricker and a charger - both of which are now produced, and I can identify them as being those used on the occasion aforesaid. The charger on this occasion is constructed of tin plate, soldered together, and a piece of wood in the bottom, and the pricker of copper. There was no funnel used. This is the ordinary way of charging blasts with powder. In my opinion a leather charger would be safer, or a gutta percha would be equally safe. The tin chargers are used in other mines where I have worked. The powder was placed in the holes by means of the charger and pricker as I have described. Robert Kelly had his hole powdered first. John Kelly shouted for another bottle of powder as he had too little. The supply asked for was not supplied or sent up. Robert Kelly has his hole charged and a layer of hard clay on the top of the wadding of fine grass or hay placed

above the powder. There was an ordinary charge in Robert Kelly's hole. John Kelly was putting the powder in his hole at the time when Robert Kelly was putting the hay or grass in his hole. Robert was using the stemmer, but had not finished stemming his work. The powder was the ordinary blasting powder we used. I call it by the name it bears viz. leek seed powder. John Kelly was putting the powder in, and had the charger and pricker which had been previously used by Robert Kelly. John Kelly was charging the hole where the cavity was. I heard one of the miners ask John Kelly whether he would stem the cavity up. He replied that he would try it fresh. Sometimes a hole with a cavity in it when charged will have the effect of a blast, otherwise, the powder, being loose at the bottom, it goes off in a puff, and has not the effect required. John's candle was not left near the hole when he was charging, and he was not smoking at the time. John said that he had fifteen charges of powder in his hole and even with this quantity he had not sufficient powder to charge his hole. Five chargers full of powder is the ordinary quantity required to fill an ordinary blast hole of two feet or two feet and a half. There was no swab stick belonging to the pitch. He put the scraper into the hole to see if he could find the powder in - when about ten chargers full of powder had been put into the hole it was then he put the scraper in. He then put more powder in. I was not minding him after this, but he never had the full quantity of powder in that he intended, or was going to put in. Robert Kelly was at this time at his own hole, about two feet and a half distant from John. An explosion then took place from the hole that John was in the act of charging, and a complete blast was the result. The hole tore well, better than was expected and exposed the cavity which was previously existing in the rock. When the explosion took place I and Richards were just at the bottom end of the Binnin. The roof of the mine at this part was about three or four fathoms. After the explosion John Kelly was knocked against the rock of the mine wall about two fathoms from the hole where he had been working. Robert Kelly was knocked about three fathoms from his hole. Robert gave a little moan and died instantly John Kelly was alive, and spoke sensibly from the first to the last. John asked if the hole had done its work and being told that it had, and that Robert Kelly was killed, he said he would

not be long after him. I left the mine about an hour afterwards. I found the pricker and the charger on the stuff that we have on the top of John Kelly. The instruments were bent as they now appear. I found the tin can out of which the powder was supplied lying close to John Kelly. It was not quite empty, the lid was not on it. We have no difficulty in getting anything necessary for all concerned in the working of the mine. All we ever supply is the grass, the straw fuse, and the paper required for making a match with. When timber is required it is always at hand.

(Cross examined by Inspector Evans)

We use straw always to fire off the powder blasts. We have used fuse, but not in this pitch of the mine. In my opinion there was no occasion to use a fuse then, it being my opinion that the straw is safer to use than fuse. We could straw the hole tighter when the pricker is in the fine powder being supplied from the Stores. The stemmer produced is the one in use at that pitch, and if it had been required it would have been used on that occasion. There is a wooden swab-stick now in the pitch. It might be an improvement to put the powder into paper bags, which would separate the charges. I do not know that an abstract of the Metalliferous Act is posted up where men can see it. I know that there is a rule that the wadding, or first part of the stemming should not be put down with an iron or steel stemming bar. I never asked for a wood swab-stick. John Kelly did not appear to be in a hurry at this work, nor did he, in my opinion, make any mistake.

EVIDENCE OF W.H. RICHARDS

I am a miner and come from Cornwall. I have been a miner for the last five or six years. Previously I was a labourer at the mines, and have worked underground for the last thirteen years and am now a practical miner. I have heard the evidence read to me by Edward Kelly, a witness already examined, and the facts as stated there are in every respect true. I cannot add anything thereto.

(Cross examined by Inspector Evans)

The stemmer of iron now produced is the one which was in use in the pitch at the time of the explosion. There was not at that time a copper-tipped stemmer there, nor a wooden swab-stick. I have seen an abstract of the Metalliferous Act posted in the mine for me to read. I know that rule