

18. Have you had any experience in regard to sanitary matters?—During the last twenty years I have had no experience in regard to it.

19. *Mr. Dowgray.*] In connection with the detection of gas by means of a candle, do you think that is a proper test for the safety of the men?—It is the only test we had.

20. Can it be improved on?—Yes.

21. You were present when witnesses were giving evidence as to the necessity for pawls on windlasses: what is your opinion on that point?—Most decidedly they are necessary.

22. *Mr. Parry.*] You have heard the evidence given by previous witnesses in regard to sanitary appliances, baths, and change-houses, also as to the fixing of a standard temperature for a six-hour place. Do you corroborate the evidence already given in regard to those matters?—Yes, to a certain extent.

23. Is there anything else that you would like to bring before the Commission on those points?—Yes; that in the event of the present state of things being continued in the Deep Levels the blower should be kept going all the time, and not stopped on Saturday nights and only started again shortly before the shift goes below.

24. Is it stopped, then, on Saturday night?—I have been given to understand that it is stopped when the men come off shift on Saturday, but it is not known at what time it is started again. The air is not so pure as it would be if the blower were kept going constantly.

25. *Mr. Reed.*] Are the conditions under which you observed the exhaust to be preferable to the blower to be compared with the Deep Levels?—I am not in a position to say.

26. Have you known men's health to suffer through not having bath-houses at the mines?—No; but in my opinion one bath would be sufficient for a thousand men.

27. In these struggling mines at the Thames, would you insist upon every working-place being supplied with pure air?—Yes; that is, where common-sense could provide it, but not where it would involve the mine-owners in greater expense than they would be able to bear.

28. So you would consider the question of expense when deciding as to these small mines in the matter of bath-houses. In regard to ventilation, would you give them some latitude similarly?—Yes, in the event of the men and officials being satisfied with the conditions.

29. You would not be sacrificing the safety of the men?—No. I am not a faddist on that point, and believe in reasonable conditions.

30. Would you consider the burning of a candle as a test of the presence of gas to be a reasonable condition?—It is a satisfactory guide. I have used it always.

31. Is it admitted by the experienced miners all over the world?—I do not know; but the practical miner is satisfied with it.

32. *The Chairman.*] Have you known accidents happen through ignorance of that test?—Yes. In the Caledonian tunnel two men were smothered. There was a way of escape, but by some means the trap-door had been covered over. When they found the gases rising they went up a rise, but were unable to lift the trap-door, and were overcome by the gas and smothered.

33. Does every miner know of the test by the candle?—Yes.

34. Have you ever known of an accident happening as the result of men remaining underground despite the effect of the gas on the candle?—No; such men had no business underground.

35. Could any test be simpler than a candle test?—No, there is nothing simpler.

36. *Mr. Cochrane.*] You also spoke, Mr. Sawyer, of the effect of the gas on the beating of the heart, and then the candle burning dimly—that is, in a general way, you meant, and not as a scientific test?—Yes.

37. Why?—I suppose the gases cause the heart to beat louder owing to there not being sufficient air.

38. Does it have a different effect on different individuals?—No; as a rule I find that where the gas is mixed with the air to an appreciable extent it makes any man's heart affected.

39. *Mr. Molineaux.*] You refer to a cage accident where a man was injured: how long ago was that?—About twenty-two years.

40. There were no safety-catches on the cages in those days?—No; that was the cause of the safety-catches being installed all through Australasia, and also the starting of the payment of compensation for accidents.

41. *Mr. Dowgray.*] I understand there is a better method for deciding the amount of gas: there is a lamp which detects  $1\frac{1}{2}$  per cent. of gas?—But is  $1\frac{1}{2}$  per cent. dangerous to human life?

42. If your candle will only tell when 7 per cent. is present, is it not much better to have a quicker test?—Well, I do not know. You see, the miner always has his candle with him.

43. *The Chairman.*] Do you know of the existence of a lamp which shows the presence of  $1\frac{1}{2}$  per cent. of gas?—No, I have never seen such a thing.

44. If there were such a lamp would you advocate its use as opposed to the candle?—No, I do not think it is necessary. It is what I call splitting hairs.

WILLIAM HENRY LUCAS sworn and examined. (No. 11.)

1. *The Chairman.*] What are you, Mr. Lucas, a miner?—Yes; but I have not done any mining during the last four or five years. Up till that time I had been mining for between thirty and forty years.

2. Do you hold office in the Thames Miners' Union?—Yes, I am secretary.

3. Have you had any experience of testing the temperature of air by instruments?—No, I have only a smattering of it. I have had no experience.